

# **Electronic Fraud: An emerging cause of Bank Failure in Nigerian deposit money Banks**

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**Abstract:** The study reviewed the degree to which fraud and other unethical practices especially in the digital space have affected the Nigerian banking industry both in the past and present, and how it will be a growing concern in the imminent future. The objective of the study was to examine the impact of electronic fraud on the quality of assets and return on assets of Nigerian deposit money banks. The causal/descriptive research design was adopted for the study. The research used secondary data for the periods 2006 till 2018 which were collected from the Nigeria Deposit Insurance Corporation (NDIC) annual reports. Descriptive analysis and ordinary least square method of regression analysis were used for data analysis. Findings revealed that electronic fraud cases increased progressively over most of the years of study, which can be attributed to the increased bank products that are electronic based. The researchers, therefore, recommend amongst others that when new products are introduced, there should be proper test for efficiency. Limits should also be placed on transactions that can be done per time pending when the product is fully developed and incorporated

**Keywords:** Electronic Fraud, Nigerian Deposit Money Banks, Bank Failure, Return on Assets, Quality of Assets.

## **1. Introduction**

Fraud can be likened to a communicable disease that does not only disrupt the banking sector but its effects are felt across every other sectors economy. This has a negative impact on the liquidity of banks and their performances are beginning to deteriorate (Ojeaga, Ikpefan, & Odejimi, 2014; Gitau, 2016). The financial institution is the most important part of the Nigerian economy, and a major player here is the banking industry which is easily referred to as the central nervous system to the economy with notable stress on its roles and trials (Dennis, 2013).

The banking sub-sector in Nigeria is a mainstay of the nation's economy as it is involved in the administration and marshaling of financial resources to various segments of the economy thus allowing the economy to grow and expand. The banking subsector, at times venture into financing of projects in the real sector of the Nigerian economy, this therefore, provides anchor for the process of the growth of the economy and nation's development (CBN, 2009; CBN, 2016). Any tension therefore in this sub sector will cause serious distortion in the nation's economy.

Electronic banking in Nigeria can be traced to its origin back to when the banking sector

was deregulated in 1986. The consequence of this deregulation led to a great feat resulting in transformation via the use of computers and enhancement in the delivery of service to bank customers. Introduction of new products became a method for competitive advantage within the banking industry whereas patron complexity stood as a challenge for these banks. This led to the regeneration of processing procedures of business accounts to boost the computerization of financial services mostly among young commercial and merchant banks that stormed the industry (Oluwatolani, Joshua & Philip, 2011). There has been a swift improvement in technological revolution witnessed in this 'jet age' in the financial service industry which has now been termed 'e-developments'. Every area of the financial intermediations and financial markets have been impacted with these remarkable innovations and has birthed nomenclatures such as e-brokering, e-supervision, e-money, e-finance, e-exchange, e-insurance and most importantly electronic banking (e-banking). This phenomenon is gradually becoming a major competitive factor in the imminent advancement of the banking sector, as bank's marketing and business strategies are being greatly influenced.

Fonchamnyo (2013) reported that the usage of e-banking has become incessant in distribution of financial services resulting from the quick developments in information technology and intensive competition in the banking sector. All sorts of Electronic payment instruments have been introduced in this era majorly to ease trade transactions and abridge payments. Prior to when the automated payment system was introduced into Nigerian banking system, bank customers had to be physically present in the banking hall to carry out any of their transactions.

Man hours are spent on queues just to get a teller of the bank to deal with their transactions. A lot of people (bank customers) easily get discouraged by these long queues and often time storm out of the banking hall in annoyance. Over the years, several practitioners and stakeholders such as entrepreneurs, IT experts, bankers, and others have lent their voice for physical cash to be replaced with the introduction retail payment solutions that are more cost effective, flexible, and efficient (Siyanbola, 2013; Aguolu, 2018). The face of traditional practices in banking has been greatly transformed as Electronic banking has generally experienced massive growth.

The numerous ways the world banking industry has integrated wouldn't have crossed anybody's minds some decades ago, due to the course of globalization. The concept of globalization involves expansion and integration of markets, governing structures, and global organizations from one country to another with the aim of creating more cohesive world class governance and economic structures. This has of course been a process that has stretched back into time immemorial (Busch, 2009). Some renowned organizations such as the World Trade Organization (WTO) have pioneered the course for the expanding pace of globalization, which subsequently lowered barriers in market and competition.

This has steered the rise in capital mobility and in turn increase the ability of agencies that provide financial services to meet the desires of various stakeholders, be it individuals or companies around the globe (Busch, 2009). It will be worthy to note that the sporadic upsurge of globalization, along with the growth in technology and other varying influences, have also led to fraud growing in an alarming rate alongside introduction of fraud activities that were

alien prior to this new age (Zagaris, 2010; Ayo, Adewoye, & Oni, 2010). Detection of these innovative fraud activities pose a challenge due to sophistication of the technology used to perpetuate the fraud; hence, banks requires more resources to detect and prevent the frauds from happening or minimize its impact should any one skip the stage of detection and prevention (Kranacher, Riley & Wells, 2011; Osabuohien, 2008).

There are various challenges banks encounter in the process of recognizing fraud and averting fraud, and these hitches are usually being worsened due to institutional, political and regulatory structures that exists in the banking industry. Although, there may have been substantial support from regulatory authorities, however, the occurrence of fraud in the banking industry for a given country cannot be anticipated to end or even essentially meaningfully decline with the presence of these regulatory bodies (Hoffman, 2002). Some banks in Nigeria are distressed due to the occurrence of fraud in these banks which has shaken their roots and integrity. From the submissions of Oseni (2016) and Akinyele, & Olorunleke (2017), many stakeholders in the banking industry were beginning to lose their faith and confidence in the system due to level at which incessant frauds in the banking industry have got to. Adeyemo (2012) was of the opinion that fraud is made possible when fraudsters corroborate with an insider in the bank. It is expected that banks are to carry out their duties without conflict of interest, which is devoid of deceitful acts. This will be important for the goodwill and public trust of the banking sector to be restored. Organizational assets are reduced whereas liabilities are increased as a consequence of fraud. Relating this to the banking industry, fraud may stimulate the loss of public confidence in the banking industry, and in

turn hinder the continuity status of the bank and eventually lead to the failure of the bank.

Banks are usually presumed by the larger society to be transparent, fair, have great accountability, and effective intermediation, warranting that their responsibilities are carried out with absolute integrity and sincerity of purpose as a means of gaining the trust and goodwill of the public with respect to their operations. The advancement in the area of Information and Communication Technology (ICT) has led to the complexity of banking business which in turn has reformed the type of fraud and other deceitful acts that occur in banks.

According to Berney (2008), there's huge reliance on the internet by bank customers with which they use in carrying out their transactions, this has resulted in significant increase in the number of transactions done online. In the research carried out by Galliers, Jacob and Malphrus (2009), they found that fraudsters have more chances to attack customers on the internet as they are not present physically to determine the authenticities of the web transactions. Even with the presence of regulations in Nigerian banks and bank inspections by the Central Bank of Nigeria (CBN) and the supervisory role of the Nigeria Deposit Insurance Corporation (NDIC), fraud and other fraudulent activities remain a growing concern in the banking industry. A critical look at the NDIC Report (2008), the report of the investigations and distinct examinations from the banks were still bedeviled with glitches of inaccurate financial reporting; declining asset quality; fraud, poor book-keeping practices; weak board and management oversight; non-performing insider-related credits; inadequate debt recovery; attendant large provisioning requirements; significant exposure to the capital market through share

and margin loans and non-compliance with banking laws, rules and regulations.

Of the many factors that impact the performance of the banking sector in Nigeria, fraud and fraudulent practices tops the list (Okpara, 2009; Lister, 2017). From the foregoing, this study reviews the degree to which fraud and other unethical practices especially in the digital space have affected the Nigerian banking industry both in the past and present, and how it will be a growing concern in the imminent future.

## 1.2 Research Hypotheses

H<sub>0</sub>: There is no significant relationship between Electronic Fraud and Bank Failure

H<sub>0</sub>: Electronic frauds do not significantly affect return on assets in Nigerian Deposit Money Banks.

H<sub>0</sub>. There is no significant effect of electronic fraud on quality of assets in Nigerian Deposit Money Banks.

## 2. Theoretical Framework

**The General Deterrence Theory (GDT):** The common preclusion hypothesis (GDT) corroborates the fraud management lifecycle supposition and is as follows opined to say four interlinking apparatus to for practical purposes influence and run fraud, specifically deterrence, prevention, detection and remedy. It proposes that the triumphant balancing of behavior contained by and between these core mechanisms will enhance operative fraud management and control. Anticipation is clear as the inhibition of criminal behaviour through panic of punishment. It is characterized by events and behavior designed at stopping fraud before it is attempted which may end result into rotating to the left or daunting level the challenge at fraud (Wilhelm, 2004). Anticipation actions are regarded as passive,

as nearby is no inherent means for ensuring enforcement, in so doing relying on the exclusive for compliance. It is too distinguished that the gather together personality of preclusion is implied; it is furthermore an aggregation of behavior with unstable degrees of deterrent quantity and cannot be viewed as a gigantic whole.

The strife for anticipation is in this manner to afford disincentives for possibility notebook fraudsters (Wilhelm, 2004). But the limitation of avoidance behavior or procedures necessitates the prevention of fraud. However, GDTs say that they should to make available deterrent procedures to be second-hand as a brute / software impediment or obstacle, such as safe premises or substantiation diplomacy to put a stop to unauthorized users though on the whole in order systems hold all ears on this piece to let alone the disruption and spoil caused by fake acts, they experience been unbeaten to a number of extent.

On the other hand, it is as well argued that generally defensive events may inhibit contract functions and pessimistically concern profit (Gopal and Sanders, 1997). Moreover, hot studies explain that unchanging highly developed precautionary dealings and techniques are productively bypassed, and frauds are subdued committed. The achievement of the preclusion part is so dependent upon the operation of the other components; and so they have to for events and techniques to become aware of fraud is hence sustained by GDT. Preventive behavior are carefully connected with anticipation and detection but are more often than not noticed after the apparent closure of avoidance and before the tinge or detection of fraud has been accomplished. Prevention actions are hence designed to hinder, check, or bring to a close a fraudster from the stage or perpetrating a deceptive activity. The actions are destined

to harden the fraud target. Detection behavior on the other administer are embattled at identifying and locating fraud preceding to, during, and succeeding to the completion of the falsified activity. Detection is as a result definite as the progression of attempting to discover sanctuary breaches contained by a system, each through inner system gearshift or decided detection activities. Thus, detection actions enter measures and steps to tell the being of fraud tough and fraud attempts, as satisfactorily as profitable frauds. Furthermore, while fraud is detected, or still in the nonappearance of fraud, GDTs put forward they could do with for a officially permitted classify to check or recompense a dishonest or enforcing right. Measures geared towards remedies then go through to inquire about compensation and a large amount prominently to deter others (Enos, 2000). GDTs hint that the actions of the four machineries ordinarily fulfill to deter and preclude fraud.

## 2.1 Empirical Review

Some literatures were reviewed as relates to fraud and put in the bank presentation in Nigeria. Kanu and Okoroafor (2013) reviewed a variety of forms of fake practices and their collision on depository deposits in Nigerian banks, for the interval 1993-2010. They looked at the quantity of depository assets nowhere to be found to frauds and allied it to add up deposit liabilities of insured capital banks in Nigeria. It was discovered that at hand exists hefty connection between tier deposits and sum off course to fraud with fake withdrawals constituting the best part of the fraud. Similarly,

Aruomoaghe and Ikyume (2015) examined fraud as a challenge to true monetary exposure with focus on the banking sector. They adopted descriptive plot research. It was create that non accounting for fraud in

the organisations economic proclamation organize not signal a real and bright view of such monetary account and may give the wrong impression about the users of such economic statement. It was set up that the percentage of mobilized cremation flummoxed to fraud was highest between 2001 and 2005 but nearby was considerable diminish between 2006 and 2011.

Furthermore, Owolabi (2010) reviewed the numerous forms of fake practices, their effect and encouragement for a number of forms of reform in the banking industry. He adopted Descriptive inquiries design. He set up out that Managers and Supervisors accounted for 485 (37%), Executive Officers/Accountants and Executive Assistants 431 (33.59%) adding together 916 out of 1283 employees difficult in imitation act out between 2002 and 2006.

Inaya and Isito (2016) investigated the do crash of fraud on the Nigerian banking industry. Ex-post facto delve into construct was adopted for the study. Information was calm from Nigerian Deposit cover Corporation and the advertisement banks account of balance sheet for the point 1990-2014. Ordinary Least Square (OLS) with its greatest Linear Unbiased estimation (BLUE) house was old in analyzing the data. They open that banks in Nigeria flourish under sky-scraping fee of fraud and fraud has unenthusiastic get-together impression on the Nigerian banking industry.

Ikpefan (2006) empirically experienced if at hand is no momentous association between deposits on one pass and the next explanatory variable-fraud, actual/expected damage and change laundering take steps for the episode 1989-2004. OLS failure was used. The relationships were veteran by correlation coefficient, t-test, f-test and usual miscalculation tests. The product showed denial liaison between capital deposits in

one distribute and fraud and actual/expected defeat and assured bond between sum of deposits and funds laundering act.

Abdulrasheed, Babaita & Yinusa (2016) examined the quandary of fraud and its implications for embankment thing in Nigeria via empirical analysis. Records were collected from NDIC from 2004 to 2009. Parametric tables and Pearson Correlation were utilized for numbers analysis. It was bring into being that banks recorded the record belongings of fraud in 2008. Hypothesis hard showed that here is a important bond between sum quantity implicated in fraud belongings and bank's profit.

Olatunji and Adekola (2014) assessed the nature, causes, effects, detection and precautionary actions for group frauds in Nigeria. Questionnaire adopted from Alleyne and Howard was served by convenience sampling to 100 respondents. Derived numbers were cool from NDIC for the stop 2002-2012. Straightforward percentage was second-hand for analysis. It was concluded that in view of being paid and accrual quick-thinking and swift wealth, misplaced usefulness belief and general harsh lucrative environment, tall time fraud was on the escalation with banks behind millions of naira on day after day base and fraudsters were hard at it devising new revenue for their disreputable acts.

Sang (2017) examined the fraud direction procedures put in cause to be in and evaluate the effectiveness of the in-house run procedures on fraud occurrence in elected profit-making banks in Nakuru civic in Kenya. Descriptive follow a line of investigation figure was adopted, and numbers were serene by structured questionnaire which was administered to stratified preferred sample. Investigation of records was through descriptive and

inferential statistics-chi-square and linear regression. It was set up that periodic investigate had 33.3 percent little every day confirm and weekly tests had 24.4 percent all with monthly invoice having 29.5 percent. Inner regulation was create to be destabilized by non-adherence to dual be in command of aspects (21.8 for each cent).

Afayi (2014) examined the effect of fraud on the operation of banking business in the United States of America (USA). Banks as a one-piece was examined, end answers to why cache failed, examined how a lot of banks hold abortive or come again? Percentage of banks contain disastrous in USA as an answer of fraud, scrutinized the defensive dealings the banking production come up with full to inhibit counterfeit practices and file any curative action if hardship be. The schoolwork spanned from 2000-2014 in which about 523 banks contain disastrous throughout USA. The ratio of array breakdown caused by fraud as contrasting to other factors- out of 20 preferred banks, 8 banks in lieu of 40 percent futile expected to counterfeit practices.

Nwaze (2016) affirmed the reality that on the whole fraud gear are perpetuated by home rod or by outsiders who feat in agreement with employees of the bank.

Ovia (2017) posits that on-line banking army gives rise to currently grow to be a birth desirable of the patron as the client burden the flexibility of in use and credit in any part of a reserve irrespective of which area the account. There are a numeral of studies that insinuate that customers' adoption of electronic banking may be allied to a come to of factors, round about connected with the characteristics of the result or ritual and others connected with the characteristics of the customers (Balachandher, 2001). Technology

Acceptance classic (TAM) is one of the mainly utilized models for studying IT acceptance (Fonchamnyo, 2013). The TAM involves two prime predictors for the makings of adopter-Perceived Usefulness (PU) and Perceived straightforwardness of wear and tear (PEOU) of technology as the key determinants of the attitudes toward a new technology.

PU is the amount to which a individuality said that by a exacting system would enhance his or her mission performance; despite the fact that PEOU is the notch to which a human being thought that via a fussy system would be free of energy (Fonchamnyo, 2013). Fonchamnyo (2013) discovered that perceived security, trust, expenditure of service, usefulness and ease of understanding carry out big talk into on customer's view and so adoption of e-banking.

Izogo et al. (2014) investigated the influence of Demographic Variables on Consumer's Adoption of E-banking in Nigeria bare that though marital status, epoch and didactic at the same height authority the adoption of e-banking. Howcroft, Hamilton and Heder (2018) established that the principal characteristics that inhibit online banking adoption are safety and privacy.

Maiyaki and Mokhtar (2017) however, argued that availability of electronic banking amenities such as ATM, online function and cellular phone banking see to not state big talk into in customer's pronouncement to indicate banks. This according to them may possibly I don't know be explained by the reality that presently, more or less the complete the players in the Nigerian banking sector get something done hold electronic facilities.

## 2.2 Gaps of the Literature

From a choice of literatures that were reviewed, it became clear that here was no

equality in the approaches as considerably as methodologies adopted in the studies as a result far. For instance, Kanu and Okoroafor (2013) reviewed blow of fraud on deposits, Aruonoaghe and Ikyume (2015) examined fraud as a challenge to correct fiscal coverage in Nigerian banks, although Uchenna and Agbo (2015), Afayi (2014) and Odi (2013) evaluated the brunt of fraud and deceitful practices on tilt performance, in the middle of others. Despite the fact that more or less adopted descriptive exploration design, others utilized ex-post facto explore originate and practical OLS for information analysis.

The above showed departure from methodology. Sequel to this, evaluation of the stimulate of fraud on Nigerian banking engineering by an ex-post facto make inquiries draw up plans with point attention on the result of fraud on cash in profits, assets and panel deposits was done. None of the moving parts reviewed second-hand these variables. The prompt on margin deposits took the argument on this subject beyond the natural realm. It has helped to fulfill a long-standing interruption in education that relentless line fraud is a demotivator to depositors. The revelations in this neighborhood are undeniably a motivation to rank managers who up until at the present thought that veer fraud has frightening possessions on depositors. This part to intelligence will, no doubt, move an elongated tactic in relieving pool managers of a disquieting mental complex on the look of embankment fraud on depositors in Nigeria.

## 3. Methods

The causal/descriptive research design was implemented for this study which is aimed

at establishing the impact of one variable and another. The research design came in handy for the explanation of determining the relatedness or variation between two variables. Enough information and data was used to establish this by testing for the cause and effect relationship. It focused on determining the impacts of electronic fraud as it relates with bank failure of banking industry in Nigeria. In this research work, Return on asset and qualities of asset were used as an index to determine bank failure; return on asset ROA is expressed as;

$$\text{Return on assets} = \frac{\text{Profit before tax}}{\text{average total asset}} \times 100$$

The return of assets (ROA<sub>t</sub>) was regressed on mobile banking (MB<sub>t</sub>) and internet banking (IB<sub>t</sub>) with the use of the researcher's model. This model is specified below:

$$\text{ROA} = b_0 + b_1\text{IB}_t + b_2\text{MB}_{it} + e_t$$

$$\text{ROA} = \text{Return on asset's value at time } t$$

$$Y = a + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + e$$

Where;

Y= the financial performance of deposit money banks as expressed by ROA- ratio of after tax profits to total assets

X<sub>1</sub>= % of Mobile Banking fraud

X<sub>2</sub>=% of Internet Banking fraud.

X<sub>3</sub>=% of ATM fraud

X<sub>4</sub>=% of PoS fraud

The quality of asset and returns on asset were chosen as the measure of bank failure/success. Quality of asset and returns on asset was regressed on mobile banking,

internet banking and PoS by making use of the researcher's model as stated below:

$$\text{QOA}_t = b_0 + b_1\text{IB}_t + b_2\text{MB}_{it} + e_t$$

$$\text{QOA} = \text{Quality of asset's value at time } t$$

$$Y = a + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + e$$

Where;

Y= the financial performance of deposit money banks as expressed by QOA ratio of total capital to risk weighted assets

X<sub>1</sub>= % of Mobile Banking fraud

X<sub>2</sub>=% of Internet Banking fraud.

X<sub>3</sub>=% of ATM fraud

X<sub>4</sub>=% of PoS fraud

SPSS version 22 was used to estimate the coefficients of the models and interpret with the aim of testing the vigor of the models

The population of the study consists of all deposit money banks in Nigeria. The study covers the period 2006- 2018. The period was considered appropriate because electronic banking full adoption in Nigeria started between 2003 and 2004, hence, the effect cannot be felt within few years of adoption. Secondary data was used for the study and was obtained from the Central Bank of Nigeria's annual reports and statistical bulletin and the NDIC financial statements for banks; return on assets, revenue generated from ATMs, POS and electronic banking, mobile banking and the deposits for the banks. The Ordinary Least Square technique and correlation were used for the study

Year	No. of Reported fraud cases	Amount of fund involved in fraud (₦b)	Expected Actual loss ₦b	Profit before Tax ₦b	Bank Deposit ₦b	Return on Assets ₦b	Quality to Assets ₦b
2006	1,193	4.83	2.77	610.12	3412.3	4797	2840
2007	1533	10.1	2.87	619.96	5357.2	13822	5250
2008	2007	53.52	17.54	658.1	8702	14125	6851
2009	1764	41.27	7.55	-1370	9989.8	12624	7593
2010	1532	28.4	11.68	607.34	10837.1	10256	8150
2011	2352	28.4	4.07	-6.71	12330	11625	7273
2012	3380	17.97	4.52	525.34	14386	12426	2458.7
2013	3786	21.8	5.76	539.97	16671.6	13513	23169
2014	10612	25.61	6.19	601.2	177996	14100	26233
2015	12279	18.02	3.17	588.86	17486.7	14742	26589.8
2016	16,751	86.83	3.6	445.36	18542.4	15120	203648
2017	26,182	12.012	3.75	158.25	19381.5	15201	302213
2018	28954	125.48	4.10	128.3	13856.2	15436	38951.1

#### 4. Data Presentation and Analysis

The purpose of this section is to analyse the study data and interpret the results so as to answer the research questions. The study sought to examine the electronic fraud an emerging cause of bank failure in Nigeria. The population of the study consists of all deposit money banks in Nigeria. Secondary source of data was used for this study, and the data were sourced from Central Bank of Nigeria's annual reports and NDIC annual reports. The study covers the period 2006-2018. The period was considered

appropriate because electronic banking full adoption in Nigeria started between 2003 and 2004, hence, cannot be felt within few years of adoption.

#### Table 4.1: Data on Reported Cases of Fraud

Source: NDIC Reports 2018

#### Table 4.2: Reported Cases of Electronic Banking Fraud

Year	ATM/Card-Related Fraud (₦b)	Web-Based (Internet Banking) Fraud (₦b)	Fraudulent Transfers/mobile banking (Withdrawal and Deposits) (₦b)	PoS (₦b)
2006	0.050	0.670	0.124	0.011
2007	0.020	0.940	0.322	0.017
2008	0.280	1.530	0.670	0.017
2009	0.370	1.330	0.359	0.019
2010	0.320	1.160	0.224	0.117
2011	0.380	2.280	0.425	0.072
2012	0.495	2.670	0.354	0.045
2013	0.413	1.683	1.162	0.056
2014	1.242	3.196	0.583	0.036
2015	0.504	0.857	0.562	0.075
2016	0.476	0.582	0.626	0.036
2017	0.798	0.709	0.318	0.073

Source: NDIC Reports, 2018

**Findings and hypothesis testing**

**Decision Rule:** Reject  $H_0$ , if  $p\text{-value} < 0.005$ , or otherwise.

**Hypothesis One**

$H_0$ : There is no significant relationship between Electronic Fraud and Bank Failure

**Table 4.3: Correlation Spread of Electronic Fraud Channels**

		ASSET	ATM	INTERNET	MOBILE	POS
ASSET	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	26156				
ATM	Pearson Correlation	.637*	1			
	Sig. (2-tailed)	.000				
	N	24138	24138			
INTERNET	Pearson Correlation	.920*	.537*	1		
	Sig. (2-tailed)	.000	.000			
	N	24138	24138	24138		
MOBILE	Pearson Correlation	.580*	.233*	.215**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	24138	24138	24138	24138	
POS	Pearson Correlation	.087*	.219*	.005	.024*	1
	Sig. (2-tailed)	.000	.000	.451	.000	
	N	24138	24138	24138	24138	24138

Source: SPSS

A correlation analysis is to determine the level of relationship between variables, measured within -1 to 1. Correlation value (i.e. Pearson correlation value) within 0 to 0.49 is a weak positive correlation, while value within the range of 0.5 to 1 is a strong positive correlation and same principle

applies to the negative wing. The table 4.3 above shows the correlation spread of electronic fraud channels (which are the variables) with the total bank asset (determinant of bank failure/success). Therefore, looking at the ATM column with Pearson value of 0.637, symbolizes that there is relatively strong, positive correlation between ATM fraud and bank failure. Also, since p-value of (0.000) is less than 0.05, we reject the null hypothesis and accept the alternative, which is, there is significant relationship between electronic fraud and bank failure.

More so, internet banking has an extremely positive correlation with bank failure with a Pearson value of 0.920. Also revealing that, there is significant relationship between electronic fraud and bank failure; since p-value (0.00) is less than 0.05. Intermittently, the correlation analysis to determine whether mobile banking had an influence on bank failure, shows that relationship exist ( $r = 0.580$ ,  $p\text{-value} = 0.00$ ). This implies that mobile banking is significant to increased bank failure. The study also sought to determine whether PoS had influence on Bank failure and it shows a weak positive and significant relationship exists ( $r = 0.087$ ,  $p\text{-value} = 0.00$ ). The relationship is suggesting PoS being a significant factor, slightly increased bank failure. It can therefore be concluded that all the variables were significant to the study problem although the degrees of influence varied.

**Hypothesis Two**

$H_0$ : Electronic Frauds does not significantly affect returns on asset in the Nigerian banking industry.

**Table 4.4: Model Summary<sup>a</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.675 <sup>a</sup>	.456	.145	2672.416	1.942

a. Predictors: (Constant), PoS (?a), Web-Based (Internet Banking) Fraud (?a), Fraudulent Transfers/mobile banking (Withdrawal and Deposits) (?a), ATM/Card-Related Fraud (?a)

b. Dependent Variable: Return on Assets ?a

**Source: SPSS**

Adjusted R squared is coefficient of determination which tells us the variation in the dependent variable due to changes in the independent variable. From the findings in the above table 4.4 the value of adjusted R squared was 0.145, an indication that there was variation of 14.5% on performance of deposit money banks in Nigeria due to changes in internet banking, point of sales, automatic teller machine, mobile banking and size of the bank at 95% confidence interval. This shows that 14.5 % changes in financial performance of deposit money banks could be accounted to changes in internet banking, point of sales, automatic teller machine, mobile banking and size of the bank. R is the correlation coefficient which shows the relationship between the study variables, from the findings shown in the table above there was a strong positive relationship between the study variables as shown by 0.675.

**Table 4.5: ANOVA<sup>a</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	418658 14.621	4	104664 53.655	1.46 6	.003 <sup>b</sup>
1 Residual	499926 50.296	7	171418 07.185		
Total	918584 64.917	11			

a. Dependent Variable: Return on Assets.

b. Predictors: (Constant), PoS, Web-Based (Internet Banking) Fraud, Fraudulent Transfers/ mobile banking (Withdrawal and Deposits), ATM/Card-Related Fraud

**Source: SPSS**

This implies that as the total amount involved in electronic bank fraud increases, it directly affects returns on asset, that is, electronic fraud of any sort strongly and directly decreases bank asset and vice versa. The coefficient of determination in the model summary in table 4.4, connotes that; there is a strong positive correlation between electronic fraud channel and bank asset. However, the more the asset of a bank reduces over time, the more it tends to failure or event total liquidity. Also, analysis carried out affirm that, the p-value is 0.003 which is less than 0.05; which simply depicts that we reject the null hypothesis (H<sub>0</sub>). Hence, we can conclude that, Electronic Frauds significantly affect returns on asset in the Nigerian banking industry.

### Hypothesis Three

H<sub>0</sub>: Electronic Frauds do not significantly affect the quality of asset in Nigerian banking industry.

**Table 4.6 Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.818 <sup>a</sup>	.670	.481	69640.91 43089	1.330

a. Predictors: (Constant), PoS, Web-Based (Internet Banking) Fraud, Fraudulent Transfers/ mobile banking (Withdrawal and Deposits), ATM/Card-Related Fraud

b. Dependent Variable: Quality to Assets.

**Source: SPSS**

The table 4.6 above, presents the coefficients of model fitness on how electronic banking affects Quality of asset which is used in this context as a measure for bank failure. The Quality of asset has an overall correlation with e-banking of 0.818 which is strong and positive. This means that approximately 81.8% variations from quality of asset are explained by the electronic fraud channel variables at 5% level of significance. These indicate good fit of the regression equation used. Therefore, this is a good indication of the true position that bank failure can be explained by the number of electronic fraud channels.

**Table 4.7: ANOVA<sup>b</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	68785605 310.209	4	17196401 327.552	3.5 46	.049 <sup>b</sup>
Residual	33948998 620.500	7	48498569 45.786		
Total	10273460 3930.709	11			

a. Dependent Variable: Quality to Assets ?  
b. Predictors: (Constant), PoS, Web-Based (Internet Banking) Fraud, Fraudulent Transfers/ mobile banking (Withdrawal and Deposits), ATM/Card-Related Fraud

**Source: SPSS**

The table 4.7 showed the overall significance of the regression estimation model. It indicates that the model is significant in explaining the relationship between Quality of asset and electronic fraud channel at 5% level of significance. Analysis of Variance shows that F-calculated is greater than F-critical that is  $3.546 > 0.2275$ . This implies that the regression equation was well specified and therefore the co-efficient of the regression shows that there is a strong relationship between Quality of asset and electronic fraud channel. The analysis of variance of the predictors of the model has a significance of 0.049. From the table 4.7 above; the p-value is 0.049, which is less than 0.05. We reject the null hypothesis. That is, electronic frauds significantly affect the quality of asset in Nigerian banking industry. The study also revealed that the Durbin-Watson statistics of 1.330 confirm a positive auto correlation detected within variables. The DW statistics can vary between 0 and 4 with a value of 2 meaning that the residuals are correlated (Fried, 2001).

A linear positive relationship exists between electronic fraud channel and quality of assets of deposit money banks in Nigeria as it is confirmed by the regression coefficient of 0.818 in the table. The F-statistic (3.546) is significant as shown by the P-value of 0.049 in the table. This means that electronic fraud is a strong predictor of bank's quality of asset in deposit money banks in Nigeria. The study, therefore, rejects the null hypothesis and concludes that electronic frauds significantly affect the quality of asset in Nigerian banking industry.

**Table 4.8: Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error			
1	(Constant)	1.233	60463.233		1.484	.000
	ATM/Card-Related Fraud	.271	80526.651	.843	3.119	.048
	Web-Based (Internet Banking) Fraud	.118	29842.194	-.865	3.306	.021
	mobile banking Fraud	.208	79893.295	-.015	.068	.043
	PoS fraud	.035	68396.168	-.017	.075	.028

a. Dependent Variable: Quality to Assets

**Source: SPSS**

The table generated established regression equation;

$$QOA = 1.232 + 0.271 X_1 + 0.118X_2 + 0.208 X_3 + 0.035X_4 + \epsilon$$

Where QOA= Value of Quality of Assets at time t

From the above regression model, holding internet banking, point of sales, automatic teller machine, mobile banking to a constant zero, and quality of asset (determinant for bank failure) of money deposit banks would be 1.232. This means that a unit increase ATM fraud would cause a 27.1% decrease in quality of asset in money deposit banks. Also, a unit increase in Internet banking fraud would lead to 11.8% decrease in quality of asset in money deposit banks.

A unit increase in mobile banking fraud would lead to a 20.8% decrease in quality of asset in money deposit banks, and further unit increase in PoS fraud would cause to a 3.5% decrease in quality of asset in money deposit banks. This clearly shows that there is a positive relationship between quality of

asset of money deposit banks and electronic fraud channels. The study further revealed that the P-value were less than 0.05 in all the variables, which shows that all the independent variable was statistically significant and thus in position to make conclusion for the study.

**5. Recommendations**

1). The strict and administrative bodies of banks in Nigeria be supposed to develop their supervision by every tool at their disposal to appropriately catch and curtail the incidence of fraud and false practices in the banking hard work in Nigeria.

2). Establishment of sufficient and swish electronic passage curb system is in addition optional for fraud prevention. For example, planned account-holders be supposed to be verified before any checking account is opened and the entire payments instrument with colossal quantity must be referred to the issuing tilt before payment.

3). The fraud pack reproduction as urban by Okoye (2016), which concerns corporate ascendancy in seminal fraud-risk factors in banks, must be put in place by the management. Narrow establishment like centralized department of Finance, CBN and NDIC be supposed to make certain acquiescence to applicable statutes and sunny corporate governance. This will lend a hand slash abuses and fraud.

4). When new products are introduced, there should be proper test for efficiency. Limits should also be placed on transactions that can be done per time pending when the product is fully developed and incorporated

## References

- [1]. Abdurasheed, A, Babaita, I. S. & Yinusa, M. A. (2016). Fraud and its implication for bank performance in Nigeria, *International Journal of Asian Social Science* 12(4), 382-387
- [2]. Adeyemo K. A (2012). Fraud in Nigerian banks, deep seated causes: Aftermath and probable remedies. *Mediterranean Journal of Social Science*, 3(2), 12-25.
- [3]. Afayi, T. (2014). *The effect of fraud on the performance of banks in the United States of America*, culled from <https://www.academia.edu.ng>
- [4]. Aguolu, O. (2018). *Fundamentals of auditing*. Enugu, Institute of Development Studies University of Nigeria, Enugu Campus.
- [5]. Akinyele, S.T. & Olorunleke, K. (2017). Technology and service quality in the banking industry: An empirical study on the various factors of electronic banking. *International Journal of Business Management*, 4 (4), 209 - 221
- [6]. Aruomoaghe, J. A. & Ikyume, J. C. (2015). Accounting for fraud in Nigeria: The banking sector in focus, *International Journal of Research in Management* 3(6), 59-73.
- [7]. Ayo, C.K., Adewoye, J.O., & Oni, A.A. (2010). The State of E-banking Implementation in Nigeria: A post Consolidation Review. *Journal of Emerging Trends in Economics and Management Sciences*, 1 (1), 37- 45.
- [8]. Balachandher, K.G. (2001). *Electronic banking in Malaysia*, Unpublished Manuscript, Multimedia University, Malaysia.
- [9]. Berney, L. (2008). For online merchants, Fraud Prevention can be a balancing act. *Cards & Payments*, 21(2), 22-37
- [10]. Busch, A. (2009). *Banking regulation and globalization*, Oxford: Oxford University Press
- [11]. Central Bank of Nigeria, (2009). Central bank of Nigeria Annual report and statement of accounts, available from [www.cenbank.org](http://www.cenbank.org)
- [12]. Central Bank of Nigeria (2016). Annual reports and Statement of Accounts, Available from [www.cenbank.org](http://www.cenbank.org)
- [13]. Dennis, (2013). *Information Warfare & Security*, Boston, Addison-Wesley: Reading, pp. 1-522.
- [14]. Enos, L. (2000) Yahoo! Sued for Auctioning Counterfeit Goods', available at: <http://www.ecommercetimes.com/story/2849.html>. Accessed on the 13th of January, 2015.
- [15]. Fonchamnyo, D.C. (2013). Customers' Perception of E-banking Adoption in Cameroon: An Empirical Assessment of an Extended TAM, *International Journal of Economics and Finance*, 5 (1), 166- 176.
- [16]. Galliers, R. D, Jacob S.O and Malphurus L.H. (2009), Strategic information systems planning: myths, reality and guidelines for successful implementation. *European Journal of Information Systems*, 1(1), pp. 55-64.
- [17]. Gitau W., 2016. Effect of financial fraud on the performance of commercial banks, *International Journal of Economics, Commerce and Management*, 8(1), pp. 55-64
- [18]. Gopal, H.O. and Sanders, D.O (1997). Building our defense against credit card fraud: a strategic view, *Journal of Money Laundering Control*, 14(4), 371-386.

- [19]. Hoffman, D. G. (2002). *Managing operational risk: 20 firm wide best practice strategies*. London: John Wiley and Sons.
- [20]. Howcroft, B., Hamilton, R., & Heder, P. (2018). Consumer attitude and the usage and adoption of home based banking in the United Kingdom. *International Journal of Bank Marketing*, 20 (3), 111- 121
- [21]. Ikpefan, O. A. (2006). Growth of bank fraud and the impact on the Nigerian banking industry, *Asian Journal of Business Management*, 12(7), 1-25
- [22]. Inaya, L. & Isito, E. O. (2016). An empirical analysis of social impact of fraud on the Nigerian banking industry, *Research Journal of Finance and Accounting* 7(4), 12-17.
- [23]. Izogo, E.E., Nnaemeka, O.C., Ezema, K.S., & Onuoha (2014). "Impact of Demographic Variables on Consumers' Adoption of E-banking in Nigeria: An Empirical Investigation". *European Journal of Business and Management*, 4 (17), 27- 39. [Online] Available: <http://www.iite.org>
- [24]. Kanu and Okoroafor (2013). An Empirical Assessment of the operational Efficiency of Electronic Banking in Nigeria' In *Bayero International Journal of Accounting Research*. Vol. 1, No. 2
- [25]. Kranacher, M.J., Riley, R.A. and Wells, J.T. (2011). *Forensic Accounting and Fraud Examination*. London: John Wiley and Sons.
- [26]. Lister H.H (2017).A cognitive approach to fraud detection. *Journal of Forensic Accounting*, 7(1), pp. 65-88.
- [27]. Maiyaki A.A. and Mokhtar S.W. (2017).E-Commerce Creates Unique Exposures, National Underwriter Property & Casualty-Risk & Benefits Management, The National Underwriter Company.
- [28]. Nigerian Deposit Insurance Corporation (NDIC), 2008 [www.ndic.gov.ng](http://www.ndic.gov.ng)
- [29]. Nigerian Deposit Insurance Corporation (NDIC) Annual Reports 2018. [www.ndic.gov.ng](http://www.ndic.gov.ng).
- [30]. Nwaze (2016). Due process and accountancy: Advanced fee fraud (1) Zenith Economic Quarterly 8(2) 24-28. *Investment and Finance* 1(1), 103
- [31]. Odi, N. (2013). Implication of fraud on commercial banks performance in Nigeria, *International Journal of Business and Management* 8(15), 144-150
- [32]. Ojeaga, P. Ikpefan, O. & Odejimi, D. (2014). Do High Customer Bank Deposits Incite Management Fraud? Examining Causes of Management Fraud in the Nigerian Banking Sector. *Journal of Educational and Social Research* MCSER Publishing, Rome-Italy. 4 (6), 331-341.
- [33]. Okpara, G. C. (2009), Bank failure and persistent distress in Nigeria: a discriminant Analysis. *Nigerian Journal of Economic and Financial Research*.2(1)
- [34]. Olatunji, O. C. & Adekola, D. A. (2014). Analysis of frauds in banks: Nigeria's experience
- [35]. Oluwatolani, O., Joshua, A., & Philip, A. (2011).The Impact of Information Technology in Nigeria's Banking Industry. *Journal of Computer Science and Engineering*, 7(2), 63- 67
- [36]. Osabuohien, E.S.C (2008) ICT and Nigerian Banks Reforms: Analysis of Anticipated Impact in

- Selected Banks, In *Global Journal of Business Research*, Vol. 2, No. 2.
- [37]. Oseni, E. (2016). Across the counter frauds in the banking industry and evaluation of some of the available controls. *The Nigerian Accountant*
- [38]. Ovia J. (2017) Internet Banking: practice and Potentials in Nigeria. Paper Delivered at a Workshop organized by ICAN at Lagos.
- [39]. Owolabi S. A. (2010). Fraud and Fraudulent Practices in Nigerian Banking Industry, *African Research Review*, 4 (3b), 240-256.
- [40]. Sang, M. J. (2017). Determinants of fraud control measures in commercial banks: A Survey of selected commercial banks in Nakuru town, Kenya,
- [41]. Siyanbola, T.T. (2013). The effect of cashless banking on Nigerian economy. *E-Canadian Journal of Accounting and Finance*, 1 (2), 9- 19.
- [42]. Uchenna, C. & Agbo, J.C. (2015). Impact of fraud and fraudulent practices on the performance of banks in Nigeria, *British Journal of Arts and Social Sciences* 15(1), 12-28.
- [43]. Wilhelm, W. K. (2004). The fraud management lifecycle theory: A holistic approach to fraud management. *Journal of economic crime management*, 2(2), 1-38.
- [44]. Zagaris, B. (2010). *International white collar crime*. Cambridge: Cambridge University Press