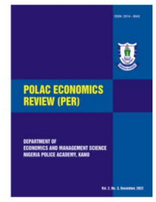
POLAC ECONOMICS REVIEW (PER)
DEPARTMENT OF ECONOMICS AND MANAGEMENT SCIENCE
NIGERIA POLICE ACADEMY, WUDIL-KANO



EFFECT OF CENTRAL BANK NIGERIA POLICY ON BANK VERIFICATION NUMBER IN IMPROVING THE BANKING SERVICES IN NIGERIA: A CASE OF KANO STATE

Muhammad Dahiru Ahmad Department of Economics and Management Science, Nigeria Police Academy, Wudil-Kano

Abstract

This study examines the effect of exchange rate volatility on selected macroeconomic variables in Nigeria from 1986 to 2018. The model formulated depicts economic growth (EG) as the dependent variable while Exchange Rate (EXR), Balance of Payment (BOP) Oil Revenue (OREV) and inflation (INF) are independent variables. These data were sourced and extracted from CBN Statistical Bulletin. We employ the Johansen Co-integration estimation techniques to test for the short and long runs effect of the variables used. The ADF test reveals that all the variables are stationary. From the parsimonious model, the results show that OREV and EXR are positively related to EG. Further findings reveal that there exist two equations at 5% level in both trace and Max – Eigen statistic. This implies that exchange rate volatility and oil revenue contributes positively to EG in the long run. We recommend that graft should be tackled frontally in the oil sector to ensure better utilization of oil revenue. Also the monetary authorities should pursue policies that would curb inflation and ensure exchange rate stability for a sustainable economic growth in Nigeria.

Keywords: Exchange Rate, Macroeconomics, Balance of Payment, Oil Revenue

1. Introduction

In banking, security is paramount to protect depositors' funds. It is in the light of this that the Central Bank of Nigeria (CBN), through the Bankers' Committee, Deposit Money Banks and Nigeria Interbank-Settlement System (NIBSS), introduced the centralised biometric identification system, and tagged Bank Verification Number (BVN) (Ehi 2015).

Therefore, going by the spate of frauds and cashless policy, the CBN in conjunction with all Nigerian banks launched the BVN project to enhance the operation of banks. The BVN became imperative following the increasing incidence of compromise on conventional security systems such as password and Personal Identification Number (PIN) of customers (Vanguard Newspaper 2015).

The Bank Verification Number, BVN, is a unique identification number for all Bank Customers within the Nigerian banking industry. BVN is a biometric authentication of Each Bank Customer, especially those who make electronic and cashless transfers through a unique set of digits (Daily Trust Newspaper, March 8 2016).

The initiative is part of the overall policy of the Financial Sector Strategy, FSS, to ensure that Nigeria becomes one of the twenty largest economies in the world by the year 2020 (Ehi 2015). According to the apex bank, customers are expected to walk into a selected bank fill and submit the BVN enrolment form. Following this, such customer will present him or herself for facial and fingerprint capturing. Thereafter, an acknowledgment slip with the transaction identification will be issued to the customer whose enrolment will be confirmed and a unique **BVN**, generated. The customer will immediately be notified via sms with the bank verification number. This is in compliance with the directive from the Central Bank of Nigeria (CBN) that by the 30th of June 2015, all bank customers should have the BVN while as from march same year, transactions valued at hundred million naira and above should only be allowed for customers with bank verification number. (Tribune Newspaper October 29, 2015).

The Central Bank of Nigeria considered the exercise as a key component of knows customer policy of banks. It is also a plan to eliminate fear in banks and make the country to be in league with developed countries of the world. As the Bank Verification Number enrolment closes tomorrow, it is therefore imperative for all Nigerians to ensure that they are enrolled. It is believed that if the BVN enrollment is properly managed, it will not only enhance credit advancement to bank customers, but also reduce reported cases of scam, fraud and account impersonation while at the same time assist commercial banks in keeping authentic records of their clients. (Ade, 2016)

Apart from these, the BVN will simplify banking operations especially inter-bank transfer, improve services and reduce unnecessary queues within banking halls. At this junction, observers believe that there is need for the apex bank to consider extending the enrolment period in view of the large number of Nigerians who are yet to be registered.

Above all the Central Bank of Nigeria should use the various platforms to publicize the intricacies of the policy. This study therefore analyzes the effect of BVN delivery of banking service in Enugu metropolise. The broad objective of this study is to examine the effect of CBN policy on Bank Verification Number in improving the banking services in Nigeria using Kano metropolise as a case study.

2. Literature Review

2.1 Conceptual Issues

Financial Institution: 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 (Bamiduro, & Ibojo, 2015).

Banking Reform and E-Banking: A vibrant banking industry in any country is pivotal to achieving economic growth development through efficient financial services as they provide a mechanical system to group savings and convert them into investment. Thus, a bank serves as an intermediary between savers or depositors and borrowers (Olanipekun, et al 2013). This is why the government establishes bank regulating bodies like Central Bank of Nigeria (CBN). These regulating bodies from time to time reform the sector to meet the current economic standard.

Bank Verification Number (BVN): Bank Verification Number (BVN) exercise, the Central Bank of Nigeria (CBN) has said once fully implemented, the BVN will be used to fish out and blacklist fraudsters in the Nigerian financial system (Nnairamakerhome 2014). The bank verification number was introduced majorly to solve identity management challenges in the banking sector. The Central Bank of Nigeria CBN introduced the Bank Verification Number in collaboration with all other commercial banks operating in Nigeria due to the increase in compromise in the security system in the banking sector. There is a great demand for better security in access to sensitive and personal information.

2.2 Theoretical Literature

Routine Activity Theory

This theory proposes that three situations facilitate the occurrence of crime. Proponents argue that such events must happen at the same time and in the same space. The three situations are the existence of a suitable target, lack of security, and a motivated offender for the crime to occur (Cohen & Felson 1979). The assessment of the situation determines whether or not a crime takes place.

2.3 Empirical Review

Wada and Odulaja (2015), the information communication technology (ICT) revolution has had impacts in almost every area of human endeavor. From business, industry, government to not-for-profit organizations, ICT has simplified business processes such as sorting, summarizing, coding, editing, customized and generic report generation in a real-time processing mode. However, ICT has also brought unintended consequences such as criminal activities, spamming, credit card frauds, ATM frauds, phishing, identity theft and other related cyber-crimes. Their study sought to assess cyber-crime and its impact on the banking institutions in Nigeria. They also examined the existing policy framework and assessed the success of the institutional countermeasures in combating cyber-crime in the banking industry. Their papers X-rays cybercrime policy issues and provide insight into how cybercrime impacts on E-banking from a Nigerian perspective. Social theories were then used to explain causation with a view of guiding policy makers on behavioural issues that should be considered when formulating policies to address cyber-criminal activities in Nigeria.

Lawal, Ibitola and Longe (2013), the Electronic banking and payments services of commercial banks are recognised by the Central Bank of Nigeria (CBN). Despite the early stage of electronic banking in Nigeria, banks are already offering various financial services through the internet. In order to protect customers' vital information and identities over the internet, necessary and standard multifactor authentication measures should be in place to avoid financial losses. The purpose of this study is to find out the multifactor authentication (MFA) methods used by the banks, evaluate the type of security mechanism adopted and develop security measures to reliably authenticate customers remotely accessing their Internet-based financial services. The study addressed conducting risk-based assessments and customer awareness program. The study was conducted on all the twenty (20) currently operating commercial banks in Nigeria.

According to Ogunlowore and Oladele (2013) in their paper "Analysis of Electronic Banking and Customer Satisfaction in Nigeria" show that e-banking was adopted by banks so as to improve their service delivery decongest queues in the banking hall, enable customers withdraws cash 24/7, aid international payment etc. Taking a look from their point of view on e-banking, BVN will be able to deliver banking service in Kano metropolise too.

Adewale et al (2014) in their journal paper "Biometric Enable E-Banking in Nigeria: Management and Customers' Perspective". The adoption of biometric technology is rapidly increasing around the globe due to the increasing sensitivity of security issues. With the recent 2015-plan and collaborations of the Central Bank of Nigeria to incorporate biometrics into her banking system, it is imperative to assess the perception of the managers and customers to the use of the long waited biometrics for secure, seamless and successful transactions. The banking sector touches the daily lives of at least 60% of the over 150 million Nigerian population and it is expected to increase as more security measures are put in places. To improve this security measures the birth of BVN was born.

According to Ehi (2015) in his paper "A critical analysis of the BVN project introduced by the CBN" show that the project was introduced due to increasing incidents of compromises on conventional security systems (password and PIN) and a high demand for greater security for access to sensitive or personal information in the banking system. He said that the BVN aims was to achieve the following objectives, protect customers banks accounts from unauthorized access; address issues of identity theft, thus reduce exposure to fraud; enhance the banking industry chances of being able to fish out blacklisted customers.

3. Methodology

3.1 Research Method

The aim of this research study is to examine the effect of BVN in Delivery of Banking Service in Enugu metropolis. This chapter consists of the research methodology which throws more light into method use in analyzing and conducting the work. Also in order to fully assess the effect of BVN in delivery of bank services, a model with dependent and independent/explanatory variables to be estimated is specified, a prior expectations of these variables, techniques of estimation and method of data analysis are all treated in this chapter. The methodology adopted in this study is Co-integration analysis using the Augmented Dickey Fuller (ADF) unit root test and Durbin-Watson statistic.

3.2 Model Specification

The pre and post Bank Verification Number (BVN) data will be used to analysis data to find out the effect on saving culture of Nigeria. It will also be used to check it effect on bank loans to small scale enterprises. Does BVN have any impact on currency in circulation may be analyze in this work. From our Literature review a model is hereby specified in a functional form. The model is adopted from a simple regression rule. It is as follow.

$$y = a + b x$$

$$BVN = CIC + CBLSS + SS + u$$

In an explicit form, it is specified as:

$$y = a + b x$$

$$\mathbf{BVN = \beta_0 + \beta_1 CIC + \beta_2 CBLSS + \beta_3 SS + U_t \quad ....(1)}$$

Where:

BVN = Bank Verification Number

CIC = Currency in Circulation

CBLSS = Commercial Banks Loans to Small Scale

SS = Savings Statistics

u_t = error term that is assumed to be normally distributed with the mean of zero and constant variance;

β_0 = Constant term/intercept;

β_1 ; β_2; β_3; β_4 = Slope coefficient.

y = independent variable

x= dependence variable

a= constant

b= coefficient of the independent variable

3.2.1 Descriptive of Variables

A Descriptive Statistical Analysis method making use of CBN data on currency in circulation, saving statistics and commercial banks loans to small scale enterprise for the pre and post period of BVN.

3.3 Techniques of Estimation

Time series data covering a period of 10 years will be estimated using Co-integration technique of analysis which is an improvement on the classical ordinary least square technique (OLS). This technique was chosen as it depicts long-run economic growth. The following techniques of estimation are employed in carrying out the co-integration analysis:

3.5 Method of Data Analysis and Presentation.

Data will be analysis using Statistical Package Social Sciences (SPSS) version 17.1. The result will be present and interpret.

4. Data Presentation and Analysis

4.2 Data Presentation

Table 1: **Consolidated Bankers' Clearing House Statistics for number of workings days and number of cheques cleared**

Period	Number of Working Days	Number of Cheques Cleared	Amount (N' Billion)	Daily Average No. of Cheques	Daily Average Amount (N' Billion)
2010	248	14,638,511	13,915.4	59,026	56.11
2011	247	14,927,414	16,492.1	60,435	66.77
2012	246	19,895,613	28,111.2	80,876	114.27
2013	251	30,172,925	43,357.4	120,211	172.74
2014	251	29,159,780	29,391.0	116,174	117.10
2015	251	33,973,919	19,675.5	135,354	78.39
2016	249	37,718,585	22,302.6	151,480	89.57
2017	248	12,045,833	7,461.6	48,572	30.09
2018	248	14,145,839	7,674.9	57,040	30.95

Source: Compiled by the Researcher from CBN Statistical Bulletin

The relationship between BVN and number of cheque cleared is that one of the reasons of creating BVN is to checkmate maximize amount of cash withdraw for individual and corporate body. For example: a single individual who have 40 different bank accounts cannot use his/her cheques in all the 40 bank accounts in a day to withdraw more than N20 million cash in a day.

Table 2: Saving statistics – Cumulative to the nearest 'billion

Period	Savings and Time Deposit with Comm. Bank	Total Savings	GDP at Current Basic Prices	Total Savings as Ratio of GDP at Current Basic Prices
2010	1,316.96	1,316.96	14,610.88	9.01

2011	1,739.64	1,739.64	18,564.59	9.37
2012	2,693.55	2,693.55	20,657.32	13.04
2013	4,118.17	4,118.17	24,296.33	16.95
2014	5,763.51	5,763.51	24,794.24	23.25
2015	5,954.26	5,954.26	54,612.26	10.90
2016	6,531.91	6,531.91	62,980.40	10.37
2017	8,062.10	8,062.90	71,713.94	11.24
2018	8,606.61	8,656.12	80,092.56	10.81

Source: Compiled by the Researcher from CBN Statistical Bulletin

The relationship between BVN and saving statistics - To check if BVN has cause money laundries, arm robbery, corruption officials to stop keeping their stole money in bank

Statistical Testing of the Hypothesis

The data collected, sorted, arranged and presented above will be tested as stated below.

Test of Hypotheses

1. H_0: BVN do not have significance effect on number of cheque clear.

H_1: BVN have significance effect on number of cheque clear.

Table 3: Result of Regression Tested using

Regression Statistics	
Multiple R	0.993916615
R Square	0.987870238
Adjusted R Square	0.97978373
Standard Error	0.249237004
Observations	11

Source:E-views4.0output

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	4	30.35455822	7.58864	122.1628	7.07E-06
Residual	6	0.372714505	0.062119		
Total	10	30.72727273			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	248.0257452	0.277849566	892.662	1.33E-16	247.3459	248.7056	247.3459	248.7056
Total Number of Cheques Cleared	7.80248E-06	1.73311E-06	4.502004	-0.004095	3.56E-06	1.2E-05	3.56E-06	1.2E-05
Total Amount	0.001625691	0.001387214	1.171911	0.285656	-0.00177	0.00502	-0.00177	0.00502
Daily Average Number of Cheques	-0.001936582	0.000433686	-4.4654	0.004258	-0.003	-0.00088	-0.003	-0.00088
Daily Average Amount	-0.405570205	0.345846346	-1.17269	0.285366	-1.25183	0.440685	-1.25183	0.440685

Source: E-views 4.0 output

RESIDUAL OUTPUT			
Observation	*Predicted Y*	*Residuals*	*Standard Residuals*
1	247.799252	0.200747994	1.039832
2	247.1903057	-0.190305671	-0.98574
3	245.9933575	0.006642501	0.034407
4	251.078284	-0.078283966	-0.40549
5	250.8521032	0.147896844	0.766074
6	251.1758756	-0.175875552	-0.911
7	248.9007904	0.099209608	0.513885
8	247.8760299	0.123970066	0.642138
9	247.860265	0.139735038	0.723798
10	247.8584646	0.141535386	0.733123
11	247.4152722	-0.415272249	-2.15102

Source: E-views 4.0 output

Decision: Since the F-computed < F-tabulated at 0.05 level of significant we therefore, accept null hypothesis and reject alternative hypothesis meaning that bank verification number (BVN) have significance effect on number of cheque clear.

Test of Hypothesis 2

2. H_0: BVN policy has negative effect on saving account in Nigeria.

H_1: BVN policy has positive effect on saving account in Nigeria.

Table 4: Result of Regression Tested

Regression Statistics	
Multiple R	0.999994
R Square	0.999988
Adjusted R Square	0.999983
Standard Error	15.01888
Observations	11

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	1.3E+08	43186425.2	191457.5	1.47E-17
Residual	7	1578.966	225.566642		
Total	10	1.3E+08			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-55.4174	38.69997	-1.4319765	0.19525	-146.928	36.09344	-146.928	36.09344
Total Savings	0.97355	0.010563	92.1623975	4.66E-12	0.948572	0.998529	0.948572	0.998529
GDP for Savings	0.002437	0.001271	1.91676669	0.096789	-0.00057	0.005443	-0.00057	0.005443
Total Savings Ratios	6.296224	3.020548	2.08446436	0.075585	-0.84624	13.43868	-0.84624	13.43868

RESIDUAL OUTPUT			
Observation	*Predicted Y*	*Residuals*	*Standard Residuals*
1	1319.04	-2.08042	-0.1655638
2	1742.441	-2.80126	-0.2229289
3	2699.327	-5.7772	-0.4597595

4	4119.752	-1.58194	-0.1258933
5	5762.453	1.05712	0.08412744
6	5943.056	11.20404	0.89163752
7	6522.481	9.429227	0.75039446
8	8039.735	22.36475	1.77982656
9	8634.973	-28.3634	-2.2572094
10	11937.09	-0.18678	-0.0148643
11	11366.75	-3.26415	-0.2597666

Source: E-views 4.0 output

PROBABILITY OUTPUT	
Percentile	*Y*
4.545455	1316.96
13.63636	1739.64
22.72727	2693.55
31.81818	4118.17
40.90909	5763.51
50	5954.26
59.09091	6531.91
68.18182	8062.1
77.27273	8606.61
86.36364	11363.49
95.45455	11936.9

Decision: Since the F-computed < F-tabulated at 0.05 level of significant we therefore, accept null hypothesis and reject alternative hypothesis meaning that bank verification number (BVN) BVN policy has positive effect on saving account in Nigeria.

5. Conclusion and Recommendations

The study therefore, concludes based on the findings of this study that Bank Verification Number (BVN) has impact on Nigeria Financial Market. The BVN exercise, needless to say, has a several benefits, which outweighs the challenges experienced by customers of banks so far because the CBN and the banks decided to embark on this project as a proactive strategy to enhance the integrity of banking service delivery by building are liable customer identification system which would help in complementing the other projects being embarked upon by various government agencies, including the National Identity Card to build a single identification database for all Nigerians. However the scope of the exercise goes beyond the banking sectors customers and has implication for those in microfinance banks, pension funds, insurance companies, stock market investors and dealers, amongst others. When operational, the project would help create a credible national image for Nigeria globally, deal with money laundering, standardized efficiency of banking operations, reduce queue in banking halls and other frauds and helps the banks to extend credit to people without worrying about where to find them and who they are.

It therefore concludes that the purpose of the project is to use biometric information as a mean of first identifying and verifying all individuals that have account(s) in any Nigeria bank and consequently as a means of authenticating customer's identity at points of transactions. However, experts believes that for the exercise to smoothly and for the scheme to success, the apex bank and other banks must intensify publicity to galvanize the banking public towards achieving the desired results.

Based on the experience, analysis and interpretation of the data collected from the survey as presented in the proceeding chapter, the following recommendations are given for the improvement of bank verification number (CBN) exercise in Nigeria, so as to ensure that it makes a great positive impact on the financial system in Nigeria.

i. The Central Bank of Nigeria (CBN) should enhance the security of BVN to protect the entire financial system of Nigeria.
ii. Banks should ensure that their customers money are protected, since customers will use banks more when they know that their transactions are safe as BVN offers vast opportunities to protect customers, banks and the entire financial system.
iii. The CBN should be greatly involved in the promotion of technologies to keep improving BVN capacities.

iv. The CBN should also enhance the integrity of banking services delivery by building a reliable customer's identification system (BVN) to help in complementing the other projects being embarked upon by various government agencies, including the National identity Card projects, to build a single identification database for all Nigerians.

v. In the light of the above, and as a matter of urgency seriously considers the extension of the BVN deadline, the CBN should come up with a workable and cost effective arrangement for customers living abroad to enroll for the BVN.

vi. For those Nigerians who do not live in cities where there are branches of Nigeria banks, the CBN should also urgently liaise with Nigeria High Commissions in those countries to assist with the enrollment of biometric for Nigerians in those countries and send them to CBN.

References

Adewale (2014). Biometric Enabled E-Banking in Nigeria: Management and Customers' Perspectives. Informational and Knowledge Management vol. 4. No 11. 2

Adewoye, J. (2013). Impact of Mobile Banking on Service Delivery in the Nigerian Comical Banks. International Review of Management and Business Research Vol. 2. Issue 2.

Audu, J.S. Adaja J. and Idris H. (2015); International Journal of Public Administration and Management Research (IJPAMR) v.2 No.5/55-64

Bamiduro, & Ibojo, (2015). Impact of electronic-banking on the performance of Nigerian banks in Oyo state, Nigeria. *Ilorin Journal of Marketing 2 (1).*

CBN (2015). "Annual Report and Statistical Bulletin" Economic Report of January

Central Bank of Nigeria, 'Bank Verification Number' http://www.bvn.com.ng/ Accessed 10th May 2016

Database Systems (2005). A practical Approach to Design, Implementation and Management. Addison Wesley. Fourth

Ehi Eric E. (2015) A Critical Analysis of The Bank Verification Number Project Introduced By The Central Bank Of Nigeria. DSC Publications Ltd. Online www.researchgate.com. Accessed 10th May 2016

Ezeja, O.E. (2007). *Project Writing: Research Best Practices*, Enugu: ADELS foundation publishers.

FFIEC (2001). Federal Financial Institutions Examination Council (FFIEC) agencies, Authentication in an Electronic Banking Environment.

FGN(2009) National Strategy for Public Service Reform Vol. 1 – Toward a World-Class Public Service - BPSR

FGN(2010) Government saves N12billion(USD60.91 Million) with IPPIS. Nigeria, Drilling news.com – 26th December,2010

Hazell and Ziad (2001), Internet Banking: Disruptive Or Sustaining Technology? Field Project Report submitted to Harvard Business School Boston, MA.

http://connectnigeria.com/articles/2014/12/benefits-of-having-your-bank-verification-number/

http://www.investopedia.com/terms/f/financial-market.asp#ixzz4KH02oLL5

http://www.vanguardngr.com/2015/03/importance-of-bank-verification-number. March 12, 2015. Accessed on 20th March 2016.

Iganiga, B. O. (2010). Evaluation of Nigerian Financial Sectors Reforms Using Behavioural Models. Journal of Economics Vol. 1 (2): 65-75. From Kamla.Raj.

Integrated Payroll System: Accountant-General Enrolls 50,000 Federal Employees file: // www.google.com

Lawal,. Ibitola & Longe (2013). Internet Banking Authentication Methods in Nigeria Commercial Banks. African Journal of Computing & ICT. Vol 6, No. 1. Pp 208-215

Nana F. M. (2016). Nigeria's Experience With Identity Systems For Civil Service Reform. A paper presented at the ID 4 Africa annual Meeting – Rwanda.

NEITI (2016). The Need to Know Who Owns What in Nigeria's Extractive Sector. Nigeria Extractive Industries Transparency Initiative (Neiti), Policy Brief Publish, Issue 01. 5.

Nweze, (2016). http://thenationonlineng.net/getting-bank-verification-number-right/

Office of the Accountant-General of the Federation (2016) status of IPPIS implementation to date. OAGF, IPPIS Department.

Ogunlowore & Oladele (2014). Analysis of Electronic Banking and Customer Satisfaction in Nigeria. European Journal of Business and Social Science, Vol. 3, No 3.

Okoro (2014) Impact of Electronic Banking Instruments on the Intermediation Efficiency of the Nigerian Economy. International Journal of Accounting Research. Vol. 1 No 6.

Olajide, Asaolu, & Jegede (2011) The impact of financial sector reforms on banks performance in Nigeria. The International Journal of Business and Finance Research Volume 5 Number 1

Olanipekun, et al (2013). The Role of Electronic Banking in Enhancing Human Resources Performance and Customer Basification: Evidence from Guaranty Trust Bank Plc, Nigeria. International Journal of Business and Behavioural Sciences Vol. 3, No. 4: April 2013.

Osuala, E. C. (2005). *Introduction to Research Methodology*. Enugu: Africa – First Publishers Limited (AFP) Academic Books.

Potter (2002) Customer Authentication: The Evolution of Signature Verification in Financial Institutions. Journal of Economic Crime Management Summer 2002, Volume 1, Issue 1

Premium Times Newspaper (November 15, 2014) 13 things bank customers must know about Bank Verification Number http://www.premiumtimesng.com/ business/ 171183-13- things-bank-customers-must-know-bank-verification-number.html Accessed 10th May 2016

Sarah Luo (2014) Central Bank of Nigeria (CBN) Implements Bank Verification Number (BVN) Identification System for Customers in Lagos. . Tuesday, July 29, 2014. Accessed on 10th May 2016

Sumathi. & Esakkirajan (2007). Fundamentals of Relational Database Management Systems, Springer.

Udo, O. (2016).Improving Nigeria's payment system through collaborative strategies. February 16, 2016 http://nationalmirroronline.net/new/improving-nigerias-payment-system-through-collaborative-strategies/

Wada & Odulaja (2015). Electronic Banking and Cyber Crime In Nigeria - A Theoretical Policy Perspective on Causation. Africa Journal of Comp & ICT Wada & Odulaja – E-Banking and Cyber Crime in Nigeria – A Theoretical Policy Perspective Vol 4. No. 3. Issue 2, 69.