ELECTRONIC BANKING AND CASHLESS POLICY IN NIGERIA

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ABSTRACT

The cashless policy has been introduced in Nigeria, however, there are still excess of cash in the economy despite the cutting edge measures put in place by the Nigerian inter-bank settlement system (NIBSS) aimed at removing and/or reducing to the barest minimum all glitches associated with cashless and e-transactions payment channels. As a result of this, the objective of the study is to determine the impact electronic-banking tools have on cashless policy in Nigeria for a ten year period which spans from 2006 to 2015. In this research work, the ordinary least square method was used to analyze the data. The data used for this research work was collected from the Central Bank of Nigeria (CBN) annual report and the Nigerian Interbank Settlement System (NIBSS) website. The major findings of this research work showed that there is no significant impact of electronic banking tools on the currency in circulation. The study recommends that transaction charges should be further reviewed to a little (single digit) or no charge, to encourage more patronage of e-payment platforms and CBN, Deposit money banks (DMBs), and other non-banks financial institutions should provide public enlightenment and awareness programs that will create awareness and entice the unbanked individuals into the banking system especially those in the informal sector in Nigeria.

Key words: Electronic banking, Deposit money banks, cashless policy, and Technology acceptance model.

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1. INTRODUCTION

In today's banking environment, the more technologically inclined a bank is the larger its customer base. This is because of the generational phase we live in, where a child of five (5) years knows how to operate computers and surf the internet. This has metamorphosed to even the daily buying and selling that takes place, outlets such as; Amazon, Jumia, Alibaba e.tc have created a platform where buyers all over the world can order for the stock of their choice and get it within days. Upon all the buying's and selling transaction that takes place, there is a common bond that fosters the smooth transactions of these outlets. The common bond is the services of the bank that serves as the settlement and clearing agents for all these transactions. The world today is termed a global village because of the electronic clearances and settlements made by banks all over the world. Therefore the importance of banks cannot be overemphasized because there are essential agents for the growth of an economy (Godswill, Ailemen, Osabohien, Chisom & Pascal, 2018).

Technological improvements have made the business environment of today witness rapid changes. Most businesses of today carry out their activities through electronic commerce (E-Commerce). E-commerce is conducting business through the internet and this has also been adopted in the banking sector. The banking sector has changed phenomenally. Activities in the bank have transformed from the manual ways of providing services to electronic banking. In time past, every transaction would have to be carried out in a banking hall over the counter where customers will spend long hours on queues to make deposits or withdraw cash. But after the introduction of E-Banking in the country in 2003, provision of services improved and the competition between banks increased dramatically. Most developed countries such as the United Kingdom, Norway, Denmark, Sweden, and many others have adopted a modernized state which is cashless and this is promoted through E-Banking devices, unlike Nigeria that is lagging behind.

Change is the only constant factor in this dynamic world and the banking sector is not an exception (Ikpefan and Agwu, 2015). A cashless economy does not mean the absence of cash in the economy, it only describes an economic system in which transactions occur without the physical carrying of cash from one person to another. According to Dugeri (2013), a cashless economy is a society whereby credit cards, debit cards, charge cards, and direct transfer are used for making purchases. Some benefits of a cashless society is that it reduces money laundering and other related cash crimes to a minimum; just as the introduction and implementation of the treasury single accounts (TSA) in 2015where the funds of various ministries, departments and agencies (MDAs) which were previously maintained by DMBs, are transferred to a single remita system maintained by Central Bank of Nigeria. The TSA has helped to curb financial malpractices that have hovered in the public system. Electronic banking forms the bedrock of cashless policy through E-Payments, the cashless economy will eventually be achieved. Some of the means of E-Payments include online/internet banking, point of sale terminals (POS), mobile banking, etc. All these channels are effective means which are adopted and thereby improves a cashless state.

It is on this background that this study seeks to investigate the relationship between electronic banking and cashless policy and how the variables adopted for this study have affected the economy. The second section is the literature review which covers; the

conceptual, theoretical and empirical reviews. The third section covers the methodology, section four dwells on the analysis and discussions of results. This study ends with the conclusion and recommendation which made up the section five.

1.1. Research Objective

1. To determine the impact electronic banking tools have on currency in circulation.

2. To determine the impact of electronic banking on economic growth in Nigeria.

1.3. Research Hypothesis

Hypothesis 1.

H_0: There is no significant impact between electronic banking tools and currency in circulation.

Hypothesis 2.

H_0: There is no significant impact between electronic banking tools and economic growth in Nigeria.

2. LITERATURE REVIEW

The cashless policy is becoming a common trend across the world and it is achieved through the electronic payment system. The channel through which financial resources flow from one sector of the economy to another sector is the payment system and this makes it very important in every economy. The electronic payment system has a great impact on cashless policy. Therefore, it is important to know the relationship between E-Banking and Cashless Policy.

2.1. Conceptual Framework

Electronic banking is a compound word that comprises two words "electronic" and "banking" were electronic is defined according to the Oxford university press dictionary as anything carried out through a computer especially over a network and banking is defined as a financial institution saddled with the responsibility of carrying out banking operations, and channeling of funds from surplus spending unit to the deficit spending units of an economy. Electronic banking (e-Banking) involves the use of the internet to perform various banking transactions. E-Banking is also referred to as Electronic fund transfer and it is a process whereby information and other banking services can be carried out by a customer through the internet (Ojeka and Ikpefan, 2011). According to Abaenewe, Ogbulu, and Ndugbu (2013), electronic banking involves driving the banks immediate and future goals through the use of information technology. It involves carrying out banking business electronically. E-Banking involves delivering banks new and traditional products or services to bank customers automatically. It is a system which allows individuals, businesses and even financial institutions transact business or obtain information on products or services through the internet (Rifat, 2013).

Shehu, Aliyu, and Musa (2013) posited that e-Banking involves providing retail or small value products and also large or wholesale banking products electronically. This definition is in tandem with the types of services banks offer their customers. According to Adewolo (2015), E-Banking involves creating opportunities through the infrastructure in the digital age. Electronic Banking is a technological upgrade that encourages the movement of less cash in the economy, in other words, a cashless economy. As stated above, E-Banking involves providing services and information for customers electronically. Some of the services which are offered through E-Banking includes; balance inquiry, payment of bills, transfer of funds etc. these are the basic services that are offered by banks. It should be noted that banks have

also expanded their E-Banking services by including brokerage services, loan and credit services, and many others. Each bank has its own peculiar product it offers to its customers.

2.2. Forms of Electronic Banking

They are various forms of electronic banking which include:

Mobile banking: This is a form of E-Banking that involves using mobile phones to carry out banking transactions. This is a system that offers information to customers and other bank services. Some of the services which are provided through mobile banking include account balance inquiry, payment of bills, short message service (SMS). It enables transactions to be done anywhere in the world and at the customer's convenience. This banking is also called 'motion banking'. It allows the customer to form banking transactions at any time as long as a mobile phone is present (Ayodele, 2015).

Internet/ Online Banking: This is a form of E-Banking whereby the internet is used for dissemination of information and also allowing customers to perform banking transactions. Tools such as computers, laptops that have access to the internet are used for this process (Ngango, Mbabazize, Shukla, 2015). The bank's website is used to advertise services. When conducting E-Banking, the instruction of customers is taken and then attended to via the same platform, The Internet. Through this product, customers are now able to enjoy 24/7 services from banks. Another advantage of the internet banking is it helps reduce the cost of operations for banks, unlike traditional banks. Just as internet banking agent banking is mainly driven by technology and transactions can be made via mobile phones, point of sales (POS) e.tc (Achugamonu, Taiwo, Ikpefan, Olurinola & Emena, 2016).

Automated teller machine (ATM): An ATM is an electronic device which can be used to carry out bank transactions. Some of the services offered by an ATM include withdrawal of funds, account balance inquiry, transfer of funds, and top-up on airtime for mobile phones etc. An ATM is operated with an electronic card. Each card has a Personal Information Number (PIN) which gives access to the account of the owner of the card. The first ATM that was offered to the public was in 1969 at the chemical bank in Rockville Center, New York. ATM'S were introduced into Nigeria in the year 1989. It was installed by national cash registers (NCR) for the society General Bank of Nigeria.

Point of sale (POS): This is a form of e-payment that handles balance inquiry, payment for goods and service, electronic fund transfer at a specific point of sale. The device allows customers to make payment for goods and services purchased without the physical use of cash. At POS terminals, when a customer slots in his card into the POS, he inputs his details and in the case of payment for goods or services, his account is debited at that point resulting in a transfer of funds to the service provider's account.

Electronic cards: these are cards that contain integrated circuits which can process data and are used for conducting financial obligations. Electronic cards could be debit or credit cards. The difference between debit and credit cards is; debit cards are used for payment of purchases made and the money comes from the customer's account directly. On the other hand, payment for goods or service using the credit card is based on borrowing. The most preferred cards used by Nigerians are the master and visa cards.

2.3. Theoretical Framework

Technological Acceptance Model

This study is anchored on the technological acceptance model which was propounded by Fred Davis in 1993. The theory of technological acceptance explains how individuals accept new technology and it leads to growth in an economy. In essence, it shows how a user of a

proposed technology welcomes and adapts to a new technology. He stated that two beliefs determine the complete acceptance of a technology. These beliefs are perceived usefulness and perceived ease of use. Perceived Usefulness is a factor that affects user's acceptance because it is based on how capable the new technology will help improve job performance. The technology must be capable of producing an advantageous result and must also be able to generate a positive performance. As for perceived Ease of Use, Fred Davis defined it as how easy it is for users to make use of new technology. It means that the ability to employ the new technology should be effortless. Prior to the implementation of the cashless policy, Nigeria was a huge cash-based economy. In order to increase the effect of the policy on citizens, the people have to believe that the policy will be easy to use and also result in positive performance thereby, leading to economic growth. E-Banking products must also be re-engineered to make electronic payment effortless which will stir the country toward a cashless economy (Nwankwo and Eze, 2013).

2.4. Empirical Framework

Electronic banking, as well as cashless policy, has been covered by several authors. In electronic banking, key issues such as their benefits and challenges, strengths and weaknesses barriers of e-banking, forms of e-banking and many other issues have been discussed by various researchers. (Alireza, 2011; Rifat, 2013). Ikpefan and Ehimare (2012) addressed cash management by the central bank of Nigeria and stated the benefits and challenges of a cashless economy in Nigeria. They concluded that the triumph of the new cash policy hinges on a strong legal framework, state of infrastructure, availability of real data, technological investments, adequate security, and an effective and efficient judiciary process would ensure the success of the new cash policy. Nwankwo and Eze (2013), carried out a study to ascertain the extent to which electronic payment affect the cashless economy in Nigeria. The results showed that the electronic payment has a great implication in cashless economy of Nigeria but it will lead to a significant decrease in deposit mobilization and credit extension by Nigerian Deposit Money Banks. The authors finalized their results by saying there should be an improvement in infrastructural development so as to enhance the e-payment system.

Okafor, Imhonopi and Urim (2011) carried out a study on internet service utilization and the impact on research outputs and teaching. Where they carried out a survey and the result of the survey indicated that majority of their respondents were computer compliant/literate (94.4%), while the remaining (5.6%) were not computer literates. However it was based on self-assessment. If 94.4% of their study population are highly information and communication technology (ICT) compliant, it can therefore be inferred that the awareness of cashless policy, cyber security, interswitch problems and other related e-payment issues needs to be checked and resolved in other to strengthen the confidence of the public to patronize modern e-payment platforms.

Ejoh and Okpa (2014) examined the cashless economic system so as to assess its feasibility and practicability in the Nigeria context Vis-à-Vis; timeless preparedness and adequacy against the backdrop of our level of development both technologically and educationally. The study used a sample size of 120 respondents. Results showed that majority of Nigerians are already aware of the policy and adequate payment facilities in the banking sector have been developed to enhance the policy in the economy. Moreover, Ejoh, Adebisi, and Okpa (2014) carried out a study that examined the cashless economy in other to evaluate the relationship between ICT and implementation of cashless policy. They administered 120 questionnaires and tested the data using chi-square. The results showed that there exists a significant level of relationship between ICT and cashless policy implementation in the

Nigerian financial environment. Moreover, public awareness should be done to encourage cashless economy in Nigeria.

Latifat and Alhassan (2015) embarked on a research to examine the pre-and post-implementation period of cashless policy tools in Nigeria. They focused the relationships between the cashless policy tools and currency outside deposit money banks (DMBs) in the Nigerian economy it was between 2009-2012. The data was regressed upon using the ordinary least square method to test the effects of this tool on the level of currency in circulation. Their findings show that not a single cashless policy tool has a significant relationship with currency in circulation outside banks mainly due to high collinearity between the tools of cashless policy.

Kehinde and Adelowo (2016) carried out a study to assess the level of Nigerians preparedness for e-commerce and cashless policy using the level of Information Communication Technology (ICT) adoption, usage and infrastructure available covering a space of 13 years. The paper concluded that ICT policy needs to be fully implemented and private and public sectors collaborations or partnership should be supported to facilitate the e-commerce and cashless policy. Taiwo, Kehinde, Afieroho and Agwu, (2016) carried out a study to appraise the implementation of the cashless policy since its introduction into the Nigerian Financial system in 2012. Another objective of the study was also to access the persistent challenges facing its implementation. They issued 120 questionnaires to respondents in Zenith Bank, First Bank, and United Bank of Africa. The results were analyzed using the Statistical Package for Social Sciences (SPSS) and one sample t-test. The results showed that the cashless policy will have the desired impact if a lot is done to ensure the implementation of an effective cashless policy system.

3. METHODOLOGY

This study is anchored on the technological acceptance model which states how end users come to accept and use a new technology. In this study, the main aim is to determine the impact electronic-banking has on cashless policy. The model will try to capture the variables that give an indication of the impact of electronic banking on cashless policy.

MODEL 1

CIC= f (ATM, POS, MB, WEB)

CIC= $\sum \beta_0 + \beta_1 ATM + \beta_2 POS + \beta_3 MB + \beta_4 WEB + \mu$

MODEL 2

GDP= f (ATM, POS, MB, WEB)

GDP= $\sum \beta_0 + \beta_1 ATM + \beta_2 POS + \beta_3 MB + \beta_4 WEB + \mu$

Where,

GDP: Gross Domestic Product

CIC: Currency in Circulation,

ATM: Automated Teller Machine

POS: Point of Sale Machine

MB: Mobile Banking.

WEB: Web/Online Banking

μ: Error term

4. PRESENTATION AND DISCUSSION OF RESULTS

4.1. Descriptive Analysis

The table 4.2.1 below displays the descriptive statistical analysis of the variables; currency in circulation (LCIC), automated teller machines (LATM), point of sale (LPOS), mobile (LMOBILE) and web (LWEB) also table 4.2.2 shows the descriptive statistics of gross domestic product(LGDP), automated teller machines (LATM), point of sale (LPOS), mobile (LMOBILE) and web (LWEB) showing the mean, median, maximum, minimum, standard deviation and so on.

Table 4.2.1 Descriptive statistics of Variables for model 1 LCIC

	LCIC	LATM	LPOS	LWEB	LMOBILE
Mean	14.12176	4.850671	0.952345	0.870330	0.926838
Median	14.19994	5.457407	0.462129	1.028981	0.614820
Maximum	14.43498	6.072122	3.517498	2.079442	3.781914
Minimum	13.56609	2.493205	-0.916291	-1.609438	-3.218876
Std. Dev.	0.293857	1.323919	1.488519	1.100062	2.031927
Skewness	-0.641743	-0.879206	0.625799	-1.093731	-0.430074
Kurtosis	2.209316	2.257178	2.039731	3.618708	2.963068
Jarque-Bera	0.946883	1.518248	1.036921	2.153244	0.308841
Probability	0.622855	0.468076	0.595436	0.340745	0.856911
Sum	141.2176	48.50671	9.523446	8.703300	9.268384
Sum Sq. Dev.	0.777169	15.77485	19.94119	10.89124	37.15856
Observations	10	10	10	10	10

Source: computed by researchers using E-Views 9

Table 4.2.2 Descriptive statistics of Variables for model 2 LGDP

	LGDP	LATM	LMOBILE	LPOS	LWEB
Mean	10.89972	4.850671	0.926838	0.952345	0.870330
Median	10.93387	5.457407	0.614820	0.462129	1.028981
Maximum	11.14221	6.072122	3.781914	3.517498	2.079442
Minimum	10.59652	2.493205	-3.218876	-0.916291	-1.609438
Std. Dev.	0.189243	1.323919	2.031927	1.488519	1.100062
Skewness	-0.28007	-0.879206	-0.430074	0.625799	-1.093731
Kurtosis	1.772534	2.257178	2.963068	2.039731	3.618708
Jarque-Bera	0.758513	1.518248	0.308841	1.036921	2.153244
Probability	0.684370	0.468076	0.856911	0.595436	0.340745
Sum	108.9972	48.50671	9.268384	9.523446	8.703300
Sum Sq. Dev.	0.322318	15.77485	37.15856	19.94119	10.89124
Observations	10	10	10	10	10

Source: computed by researchers using E-Views 9

The mean and median are measures of central tendency while the standard deviation is the sum of squared deviations from the mean. The mean is the arithmetic average of values after summing up all figures for each variables of the years (2006-2015) and dividing by the number of years (10). From table 4.2.1 above it is seen that LWEB has the lowest mean value while LCIC has the highest mean value. LCIC also has the lowest standard deviation and LMOBILE has the highest standard deviation. From table 4.2.2, the lowest mean value is LMOBILE, LGDP has both the highest mean value and lowest standard deviation while LWEB has the highest standard deviation.

Skewness measures the asymmetry of a probability distribution of a real-valued random variable about its mean. Skewness can be negative or positive depending on whether data points are skewed to the left and negative or to the right and positive of the data average. If skewness is less than -1 or greater than +1, the distribution is highly skewed: if skewness is

between -1 and -0.5 or between 0.5 and 1, the distribution is moderately skewed and if the skewness is between -0.5 and 0.5 the distribution is highly skewed. From the table 4.2.1 above LCIC, LATM, LPOS, and LMOBILE are negatively skewed while LWEB is positively skewed. From table 4.2.2 only LPOS is positively skewed, the other variables (LGDP, LATM, LWEB, and LMOBILE) are negatively skewed.

Kurtosis measures the peakedness or flatness of the distribution of the series. It is a measure of tailedness of the probability distribution of a real-valued random variable. If the value of the kurtosis is greater than 3, the distribution is leptokurtic, that is, peaked relative to the normal but if it is less than 3, the distribution is platykurtic which means flat relative to the normal. From the table 4.2.1, LCIC, LATM, LPOS, LMOBILE are all less than 3 meaning they are peaked while LWEB is greater than 3 so it is flat. From table 4.2.2, LWEB is above 3 meaning it is peaked while the other variables are flat relative to the normal distribution The Jarque-Bera test is a goodness of fit test to test whether the sample data have skewness and the kurtosis matching a normal distribution. When the probability statistics is significant, the null hypothesis is rejected. For the null hypothesis to be rejected, the probability statistics must be greater than 0.1. From the tables (both 4.2.1 and 4.2.2) all variables are significant because the probability statistics is less than 0.1.

4.2. Empirical Analysis and Interpretation

The study seeks to examine the time series data from 2006-2015. The E-VIEWS 9 software was used to carry out the analysis. The unit root using augmented dickey-fuller (ADF) was carried out for stationarity of each variable.

4.3. Unit Root Test

In carrying out this test, the augmented-Dickey Fuller test was used. The test is carried out to test for the stationarity of each variable. The rule of thumb of the test is such that if the absolute value of the ADF test statistic is greater than the critical value at 5%, then we reject the null hypothesis that the variable is non-stationary. This implies that the variable is stationary when the absolute value of the ADF statistics test is greater than the critical value at 5%.

Table 4.3.1: Unit Root Test for Model 1

VARIABLES	LAG LENGTH	ADF TEST STATISTICS AT LEVELS	CRITICAL VALUE (5%)	ORDER OF INTEGRATION	REMARKS
CIC	1	-6.773079	-4.450425	1(1)	STATIONARY
ATM	0	-5.989818	-4.246503	1(1)	STATIONARY
POS	1	-6.585059	4.450425	1(1)	STATIONARY
WEB	0	-5.98278	-4.246503	1(1)	STATIONARY
MOBILE	0	-6.539777	4.246503	1(1)	STATIONARY

Source: computed by researchers using E-Views 9

Table 4.3.2: Unit Root Test for Model 2

VARIABLES	LAG LENGTH	ADF TEST STATISTICS AT LEVELS	CRITICAL VALUE (5%)	ORDER OF INTEGRATION	REMARKS
GDP	0	-4.632774	-3.320969	1(1)	STATIONARY
ATM	0	-4.809459	-3.320969	1(1)	STATIONARY
POS	0	-4.63148	-3.320969	1(1)	STATIONARY
WEB	0	-4.680924	-3.320969	1(1)	STATIONARY
MOBILE	0	-4.911894	-3.320969	1(1)	STATIONARY

Source: computed by researchers using E-Views 9

From the table 4.3.1, the variables CIC, ATM POS WEB and MOBILE are all stationary. The test is run on first difference at the first order. In absolute terms, the ADF test statistics is greater than the critical value at 5%. Therefore, the variables must be integrated in the same order. The study adopts the unit root test at first difference because all variables are stationary of order 1 (first difference)

From the table 4.3.2, the variables GDP, ATM POS WEB and MOBILE are all stationary. The test is run on first difference at first order. In absolute terms, the ADF test statistics is greater than the critical value at 5%. Therefore, the variables must be integrated in the same order. The study adopts the unit root test at first difference because all variables are stationary of order 1 (first difference).

4.4. Ordinary Least Squares

In this study, the OLS estimation technique is used to test the influence of the explanatory variable on the dependent variables. It calculates the coefficients of the impacts of the explanatory variables on the dependent variable. The result is subjected to economic, statistical and economic tests shown below:

Table 4.3.3: Ordinary least square regression analysis for model 1.

Dependent Variable: LCIC
Method: Least Squares
Date: 08/30/18   Time: 10:59
Sample: 2006 2015
Included observations: 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	13.28709	0.131803	100.8105	0.0000
LATM	0.163969	0.034389	4.768041	0.0050
LPOS	0.017302	0.028417	0.608868	0.5692
LWEB	-0.019453	0.045891	-0.423888	0.0396
LMOBILE	0.042903	0.024847	1.726705	0.1448

R-squared	0.979533	Mean dependent var		14.12176
Adjusted R-squared	0.963159	S.D. dependent var		0.293857
S.E. of regression	0.056403	Akaike info criterion		-2.605746
Sum squared resid	0.015906	Schwarz criterion		-2.454453
Log-likelihood	18.02873	Hannan-Quinn criter.		-2.771713
F-statistic	59.82388	Durbin-Watson stat		2.076968
Prob(F-statistic)	0.0000207			

Source: computed by researchers using E-Views 9

Table 4.3.4: Ordinary least square regression analysis for model 2.

Dependent Variable: LGDP
Method: Least Squares
Date: 08/30/18   Time: 23:10
Sample: 2006 2015
Included observations: 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.47764	0.088492	118.4023	0.0000
LATM	0.071596	0.023089	3.100910	0.0268
LPOS	0.057642	0.019079	3.021181	0.0294
LWEB	0.024874	0.030811	0.807310	0.4562
LMOBILE	-0.001895	0.016682	-0.113598	0.9140

R-squared	0.977754	Mean dependent var		10.89972
Adjusted R-squared	0.959958	S.D. dependent var		0.189243
S.E. of regression	0.037869	Akaike info criterion		-3.402536
Sum squared resid	0.007170	Schwarz criterion		-3.251243
Log-likelihood	22.01268	Hannan-Quinn criter.		-3.568504
F-statistic	54.94085	Durbin-Watson stat		2.546649
Prob(F-statistic)	0.000254			

Source: computed by researchers using E-Views 9

Chart 1. Analysis of Results based on economic criteria and statistical criteria.

MODEL 1	MODEL 2
Automated Teller Machine: The coefficient is 0.163969. This indicates a positive significant relationship between automated teller machines and currency in circulation, showing that a unit increase in ATM will increase CIC by 0.163969.	**Automated Teller Machines:** The coefficient is 0.071596. This indicates a positive significant relationship between automated teller machines and in GDP, showing that a unit increase in ATM transactions will increase GDP by 0.071596.
Point of Sale (POS): POS transactions has a positive coefficient of 0.017302. This indicates that POS transactions have a positive relationship with CIC, showing that a unit increase in POS will increase CIC by 0.017302.	**Point Of Sale (POS)**: POS terminals has a positive coefficient of 0.057642. This indicates that POS transactions have a positive relationship with GDP, showing that a unit increase in POS will increase GDP by 0.057642.
Web / Online Banking (Web): This has a negative coefficient of -0.019453. This indicates that WEB has a negative relationship with CIC, showing that a unit increase in WEB will reduce CIC by -0.019453.	**Web / Online Banking (Web)**: Web / Online banking has a positive coefficient of 0.024874. This indicates that WEB rate has a positive relationship with GDP, showing that a unit increase in WEB will increase GDP by 0.024874.
Mobile Banking (Mobile): The coefficient is 0.042903. This indicates a positive relationship between mobile banking and currency in circulation, showing that a unit increase in MOBILE will increase CIC by 0.163969.	**Mobile Banking (Mobile)**: The coefficient is-0.001895. This indicates a negative relationship between mobile banking and GDP, showing that a unit increase in MOBILE will reduce GDP by -0.001895.
In table 4.3.3 the regression analysis has R2 of 0.979533, which implies there is a goodness of fit between the independent and explanatory variables and that about 97% of the variation in CIC is explained by the independent variable (Automated Teller Machines (ATM), Point of Sale terminals (POS), web/online Banking (WEB) and mobile banking (MOBILE).	**In table 4.3.4** the regression analysis has R2 of 0.977754, which implies there is a goodness of fit between the independent and explanatory variables and that about 97% of the variation in GDP is explained by the independent variable (Automated Teller Machines (ATM), Point of Sale terminals (POS), web/online Banking (WEB) and mobile banking (MOBILE).

Source: Author's computation.

Analysis of Results Based on Econometric Criteria

Test for Heteroscedasticity: This test is carried out to determine if the error term has a constant variance. The null hypothesis is that there is constant or equal variance (homoscedasticity) and to accept the null hypothesis we must have a p-value of less than 0.05or 5%.

Table 4.3.7: Test for Heteroscedasticity for model 1

Heteroscedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.610196	Prob. F(4,5)	0.3040
Obs*R-squared	5.629670	Prob. Chi-Square(4)	0.2286
Scaled explained SS	0.913258	Prob. Chi-Square(4)	0.9227

Source: computed by researchers using E-Views 9

Table 4.3.8: Test for Heteroscedasticity for model 2

Heteroscedasticity Test: Breusch-Pagan-Godfrey

F-statistic	3.037071	Prob. F(4,5)	0.1272
Obs*R-squared	7.084256	Prob. Chi-Square(4)	0.1315
Scaled explained SS	1.576049	Prob. Chi-Square(4)	0.8131

Source: computed by researchers using E-Views 9

From the table 4.3.7 for model 1, we reject the null hypothesis and conclude there is heteroscedasticity. Also from the table 4.3.8, for model 2, we reject the null hypothesis and conclude there is no heteroscedasticity.

Table 4.3.9: Auto Correlation Table for Model 1

Breusch-Godfrey Serial Correlation LM Test

F-statistic	1.191244	Prob. F(2,3)	0.0702
Obs*R-squared	4.426370	Prob. Chi-Square(2)	0.0388

Source: computed by researchers using E-Views 9

Table 4.3.10: Auto Correlation Table for Model 2

Breusch-Godfrey Serial Correlation LM Test.

F-statistic	1.800040	Prob. F(2,3)	0.0306
Obs*R-squared	5.454600	Prob. Chi-Square(2)	0.0454

Source: computed by researchers using E-Views 9

The term autocorrelation may be defined as the correlation between members of a series of observation ordered in time (as in time series data) or space (as in cross-sectional data). In the regression context, the classical linear regression model assumes that such autocorrelation does not exist in the disturbances. The test is carried out to determine if the error terms are correlated with the regression. The OLS analysis assumes that there is no autocorrelation. The Brush-Godfrey serial correlation test is used to detect for autocorrelation in this study. The

rule of thumb states that to accept the null hypothesis we must have a prob. Chi-square less than 5%. From the table 4.3.9 representing model 1 below, we accept the null hypothesis that there is autocorrelation. From table 4.3.10 representing model 2, we accept the null hypothesis that there is autocorrelation.

5. FINDINGS, RECOMMENDATION, AND CONCLUSION.

5.1. Theoretical Findings

From the discovered literature, cashless policy was introduced in Nigeria in the year 2012. However, the cashless economic system has not been fully actualized. This means that the Assertion of the technology acceptance model which connotes that's end users tends to take up new technological innovations has not been fully actualized in Nigeria. Prior to the implementation of the cashless policy, Nigeria was a huge cash-based economy.

5.2. Empirical Findings

- The results obtained from the tests reveal that the independent variables employed in model 1 (automated teller machines, point of sale transactions, web banking and mobile banking) explain about 97% of the systematic variation in the dependent variables. Also, the explanatory variables explain 27% of the dependent variable in model 2.

- Automated teller machines have a positive significant impact on currency in circulation, POS and MOBILE have an insignificant impact on currency in circulation while WEB has a negative and insignificant impact on currency in circulation.

- Automated teller machine is also the most patronized electronic banking tool and this is seen from the descriptive analysis. ATM has the highest average amongst all other variables.

- The electronic banking tools also have no significant impact on economic growth.

5.3. Recommendations

From the analysis conducted in this study, it is important that the following recommendations be made to improve the output performance of sectors in Nigeria.

- Public enlightenment programs and awareness programs on the cashless system should be put in place by the Central Bank of Nigeria to foster conversance with the system. This will create awareness and entice the unbanked people into the banking system.

- Although on the average, ATM is the most patronized during the period of study, more awareness should be embarked upon and transaction charges reviewed downwards to encourage more patronage, and this will enhance e-payments.

- The central bank of Nigeria should adopt new policies that will encourage business owners and companies to settle transactions electronically. This will help create a vehicle of change needed to drive the cashless economic system.

- E-Banking products must also be re-engineered to make electronic payment effortless which will stir the country toward a cashless economy. Some of the product are point of sale machines, web/online banking, mobile banking should have added features which will make them more attractive for use by Nigerians and hence, promote the cashless system. This is because they have an insignificant impact on currency in circulation.

- The banks and e-payment service providers should ensure that materials are not tampered with and also promote effectiveness while delivering services. New platforms can also be created to enhance delivery of services.

5.4. Conclusions

This study has finally concluded that cashless policy is very important to the Nigerian economy and therefore, the platforms for achieving this policy must be promoted. This platform consists of automated teller machines, point of sale machines, web banking and mobile banking.

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