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Effect of CBN's Cashless Policy on Operational Performance of Selected Commercial Banks in Nigeria

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***Abstract* - This study examined the effect of Central Bank of Nigeria Cashless Policy on operational performance of selected commercial banks in Nigeria. A panel data was collected from a sample of 15 banks covering 6 years ranging from 2012 when the policy was introduced in Nigeria to 2018. The study has adopted return on Asset as proxy for banks performance while the value transactions done through the ATM, POS, Internet Banking, NIP and NEFT platforms (E-banking Products) was used to proxy cashless policy using two different model. In other to ensure the validity and the reliability of the data, the data was subjected to a diagnostic test using Descriptive Statistic Analysis, Multicolinearity test, Correlation testing, and Herteroskadaticity testing. Findings from the study revealed that ATMV has a positive and significant effect on return on assets (ROA) of banks in Nigeria while, POSV, WEBV, NIPV and NEFV was found to have a positive but insignificant effect on ROA of quoted banks in Nigeria.**

Keywords: Cashless Policy, Internet Banking, Commercial Banks.

I. INTRODUCTION

There are indications that cash usage is still very high in Nigeria irrespective of the efforts of Central Bank of Nigeria towards the adoption of electronic payment system. It is caused by the challenges of inadequate power supply, shortage of critical technological infrastructures, lack of socio-cultural support and absence of regulatory framework that are required to operate seamless and effective electronic payment system in the country [1]. The automated teller machine (ATM) is the most widely used e-Payment instrument in Nigeria. It is responsible for about 89% (in volume) of all e-Payment instruments as at December [2]. Nigerian banks are no exception as banks in Nigeria, especially after the consolidation and recapitalization exercises, have strengthened and streamlined their facilities, tailored their services as well as automated their operations in line with this trend [3]. Today, Nigeria banking industry has been characterized by the deployment of ATMs, internet, phones and Point of Sale (POS) as electronic payment tools [4], which are the channels for implementing cashless policy. It is observable presently that the society at large prefers transactions that involve physical contact of people, cash and cheques to that which is done over a telecommunication network such as the Internet. In addition, security, trust and convenience are among the major contending factors affecting the adoption and efficacy of cashless policy in Nigeria. It also goes beyond this to other options that serve as means for facilitating transactions thus reducing the frequency and volume of physical cash usage mindful of the attendant cost of management of these options against the use of currency. The challenge of maintaining a perfect combination of the use of currency alongside other means for facilitating exchange in an economy justifies the advocacy for an effective payments system in the economy. The importance of an effective payments system in an economy cannot be overemphasized. [5], the payments system is an important anchor for economic and social development in any economy. An efficient payments system enhances the operation of a market economy and assists in the maintenance of monetary and financial stability by providing ease of trade, convenience and general economic wellbeing through the transmission of money between parties. Banks are the main stay of every economy and occupy central positions in the country's financial system as essential agents of economic development. By intermediating between the surplus and deficit savings units within an economy, banks mobilize and facilitate efficient allocation of funds thereby increasing the quantum of investments and economic activities. In developing economies like Nigeria, financial sector developments have been accompanied by structural and institutional changes because of its crucial role in the economic development of the nation. In pursuance of its core mandate, the CBN have engaged in series of reforms aimed at making the financial system formidable and enhancing the overall economic growth of Nigeria [6]. The cashless policy introduced by the CBN is aimed at achieving a cashless economy and was conceptualized by the apex bank to increase the proficiency of Nigeria's payment systems which will in turn improves the quality of service being offered to the banking public. One of the prerequisites for the development of national economy is to encourage a payment system that is

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secure, convenient and affordable. In this regard, developed countries of the world, to a large extent have substantially moved from paper to electronic payment systems [7]. The banks operating in Nigeria have of recent join the trend but this is not without some problems. This range from resistant from employees who tend to believe that ICT application may lead to job loss to the near lack of socio economic, technological and legal infrastructure needed to support the policy. E-Payment is a specific area of banking where ICT has found wide application. It has helped the operational environment of commercial banks in the use of inter switch Automated Teller Machine (ATM) systems which integrates all licensed banks into a network, thereby reducing or eliminating the limitations of traditional branch-based nature of banking and making the promised real time- on-line concept of globalized banking a reality [8]. Nigerian banking sector system has registered great success with 24 registered banks working through more than 5,000 ATM terminals as at 2015 [8]. This figure has increase to 18,615 as at December 2018 and this remains the dominant channels over other payment instruments of NIBSS Instance Payment, Point of Sale, Mobile Money, Electronic bills Payment and Web Payments. Before the advent of modern banking system in Nigeria, banking operations is, manually done and this account for inefficiency in handling daily transactions. However, modern banking couple with cashless policy drive has its own associated especially given customers complains due to poor network connectivity, literacy, concerns on risk and unreliable machines [8].

II. LITERATURE REVIEW

2.1 Conceptual Issues

The concept of Cashless Policy is defined in several ways, because it covers a whole range of activities. As a result, different authors have come up with different definitions which reflect their special interest in the field.

2.2 Cashless Policy

Cashless economy does not mean a total elimination of cash as money will continue to be a means of exchange for goods and services in the foreseeable future. In other words, a cashless economy is a combination of the cash-based payment system and electronic payment systems, with the latter exceeding the former in terms of utilization. It is essentially a mobile payment system which allows users to make payment through GSM phones with or without internet facilities [9]. It is an economic setting in which goods and services are bought and paid for through electronic media [9]. Cashless economy is an environment in which money is spent without being physically carried from one person or place to the other. The cashless economy policy of the CBN is design to provide mobile payment services, breakdown the traditional barriers hindering financial inclusion of millions of Nigerians and bring low cost, secure and convenient financial services to urban, semi-urban and rural areas across the country. A cashless economy, according to [9] simply illustrates a gradual or a radical movement of the entire payment system of an economy from the use of physical cash to a systemic adoption of other non-physical cash mode of payments in settlements of all types of transactions. This transaction includes all commercial, homes, personal, local and international trade both in public and private life within the economy.

2.3 Payments Systems

Payments system is seems as the institution, instruments, operating procedures, information and communications systems employed to initiate and transmit payment information from payer to payee, involving the transfer of money and other near money claims. It was stated that a payment system refers to a set of instructions and procedures used for the transfer of value and settlement of obligations arising from the exchange of goods and services within a defined market [9].

2.3.1 Efficiency of the Payments System and the Economy

An effective payments system is a vital part of the financial infrastructure of any economy. Its impact can be adjudged positive on economic growth and global competiveness through ensuring that enabling commercial transaction are completed faster, safer and cheaper. The ultimate goal of any payments system is to ensure that the exchange of monetary value is achieved using payments instruments that offer the least risk, inconvenience and cost [9].

2.3.2 Technological Innovations in Banking for Enhanced Payments System

Banking technology is essentially built around computer and telecommunications and while some services are driven by computer systems, others are built, using the same components as in general purpose computers systems technology, to evolve new, cost-effective and viable operational services. These innovations have created a new banking culture that granted customers the needed flexibility in service delivery. It has enabled the evolving cashless society to be safe-guarded on magnetic card technology [10].

2.3.3 Instruments/Channels of Cashless Policy

The earliest attempts to comprehensively estimate the private and social costs for separate payment instruments-such as cash, cheques, credit cards, money orders, point of

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sale (POS). was presented by [11]. Automated Clearing House Transfers (ACH), ATM bill payments, traveler's cheques and wire transfers. They found that from a social cost perspective, cash is the cheapest payment instrument, followed by ACH, POS and ATM bill payment. From a private perspective, cheques emerge as the cheapest payment method followed by cash, ATM and POS bill payments. The most common cash-less banking channels world over and through which the CBN policy is expected to yield result include: The Automated Teller Machine (ATM) and Cheque: Worldwide, the use of paper cash still remains the most widely used and acceptable means of settling financial transactions and obligations. However, the proportion of cash transactions is increasingly on the decline, especially in advanced economics [11]. In USA, where the use of cash is still prominent, compared with European countries, it represents 50 percent or more of the total transactions. Of course, cash is a non-electronic payment method. However, the physical carriage of cash as well as the visit to the bank branches is being reduced by the introduction of an electronic device. The Automated Teller Machine: This is an automated teller machine that dispenses cash and other functions done by a teller in a banking hall like balance inquiry, give mini statements and bills payment, recharge functions etc. A personal identification number (PIN) has to be entered along with credit or debit card to access cash. Some ATMs will allow for cash deposits and bill payments. The CBN has approved N55 as income to the bank from the 4th transaction done by the cardholder of another bank's card on the ATM terminal. It is a cash point that can be used to withdraw cash or do Transfers. A debit card or credit card is used at the machine to withdraw cash. The CBN has stipulated 72 hours for responding to ATM complaints by banks, failing which the customer can escalate to the CBN. The CBN is also trying to establish a card arbitration panel that will act as a payments system ombudsman to fast track resolution of disputes. We should also note that card fraud particularly at the ATM have reduced drastically with the migration of cards to adopt the chip + PIN technology. Cheque: A cheque is a paper based payment instrument whose usages are still gaining ascendancy. The Automation focus on this instrument is to reduce the number of clearing days and improve on security arrangement in the course of settlement and collection. For example, in Nigeria the Central Bank of Nigeria (CBN) has just embarked upon online clearing and Nigeria has signified interest and signed path to this project [11]. Mobile banking: This involves the use of mobile phone for settlement of financial transactions. This is more or less fund transfer process between customers with immediate availability of funds for the beneficiary. It uses card infrastructure for movement of payment instructions as well as secure SMS messaging for confirmation of receipts to the beneficiary. It is very popular and exciting to the customers given the low infrastructure requirement and a rapidly increasing mobile phone penetration in the country. Services covered by this product include account enquiry; funds transfer; recharge phones; changing password and bill payments. Even though the product is exciting most customers are yet to fully buy into it in Nigeria. Hence, both the apex bank and other banks still have a lot to do in term of increasing awareness of the product to the saving populace in the country. Point of Sale (POS)/Point of Purchase (POP) terminals: POS or POP is the location where a transaction occurs.

2.3.4 Benefits of the Cashless Policy to the Nigerian Economy

Undoubtedly, an efficient payment system (which depends less on cash) is a sine-qua-non for national development and a significant national infrastructure for growth. All things being equal, it has been shown that 10% increase in the efficiency of the national payment system can cause the Gross Domestic Product to increase by 1% [12]. With the advent of cashless policy in Nigeria, what are the likely benefits? Opinions on this differ. On one side, we have those who are apprehensive about the policy. The assertion by [13] sums up this: Transaction charges are seen to make significant contribution to the profits of the banks. The cashless Nigeria program has even brightened the horizon for the banks to make even higher income from transaction fees. Isn't this likely to result in armchair banking‖ whereby banks will do little to mobilize deposits and build credit asset while also scaling back retail distribution outlet as has been reported. On the other hand, there are those who are optimistic about the policy.

2.3.5 Challenges of the Cash-less Economy

As cited in the works of [14], the challenges of cash-less policy comes with enormous benefits; there are also some envisaged challenges that could confront the policy. These challenges identified by this study and elsewhere by [14] include, but not limited to:The policy is challenged by financial infrastructure deficit. The cash-less payment channels that are currently available are not adequate to cope with the demand of the policy if it is to be implemented religiously. This means that the policy will require further investment of funds by operators and regulators.

2.3.6 Operational Performance of commercial Banks of Nigeria

Commercial bank operational performance can be evaluated in three ways namely: the traditional method of financial indices based on balance sheet and income statement analysis; parametric methods based on the knowledge of production function and non-parametric method that do not

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require production function [14].Operational performance is the ultimate goal of commercial banks of commercial banks. Operational performance is a process of assessing progress toward achieving predetermined goals, including information on the efficiency with which resources are transformed into outputs both goods and services [15] whose quality depend on delivery and satisfaction to clients [15]. Operational performance of service delivery comprises three critical performance factors (quality, dependability, and speed) that are usually present in a service delivery system [14].

2.4 Variables of the Study

A variable is defined as anything that has a quantity or quality that varies. The dependent variables are the variable a researcher is interested in, while an independent variable is a variable believed to affect the dependent variable. The characteristics that may change per unit is called variable, which plays an important role in most of the research. http//www.mvorganizing.com.

2.4.1 Automated Teller Machine (ATM)

Automated Teller Machine is a machine that gives out cash and can perform other functions a taller in banking hall does like transfers, minimum balance investigation, payments of bills, deposits, and recharge of various kinds. [9] states that an automated teller machine (ATM) helps clients have effortless access to funds in their accounts without delay. For one to make use of an ATM he or she needs as a debit card and a personal identification number (PIN).CBN allows N55 as profit to banks for any 4th transaction carried out by the cardholder in another bank's ATM terminals.

2.4.2 Point of Sale (POS) Terminal

Point of Sales (POS) machine is an electronic gadget used to purchase commodities especially in hotels, filling stations, shops, and supermarkets. [16]Observed that the POS machine allows for printing of receipt upon payment of the goods and the customer will be charged a fee called merchant service charge (MSC) for the use of the machine. The maximum total fee as set out by the Central Bank of Nigeria is normally 1.25 percent of the transaction value subject to a maximum of N2000.

2.4.3 Internet Banking

Internet Banking is referred to as online banking or web banking. Online banking allows a bank customer to carry out financial transaction through the internet by using such devices as computers, mobile phones, and iPads in the comfort of their homes. It provides customers almost every service conventionally obtainable through a local branch including deposits, transfers, and online bill payments. [16]Observed that internet banking makes use of a computerized card framework to carry out payment orders and a final payment of commodities over the internet between the seller and the buyer.

2.4.4 NIBSS Instant Payment (NIP)

NIP is the Nigerian financial industry preferred money transfer platform that assurances immediate benefit to the beneficiary. It is also an account number based online real-time interbank payment solution set up in the year 2011 by Nigeria interbank settlement system. The NIP services started with only two (2) deposit money banks participating in it at the initial stage [16]. However today the number of organizations involved in the programmed has increased to include all deposit money banks, microfinance banks (MFBS), and mobile money operations (MMOs). NIP has been valuable to all parties since it allows customers to benefit from increased convenience, while corporate enjoy payment processing efficiency, increased liquidity, and reduced payment risks. Deposit money banks and other financial establishments can build services around it to meet their ever dynamic customer needs especially digital banking products. Apart from using the internet to perform the operations of NIP and NEFT one can visit his or her banks and use funds transfer forms in the bank to perform these operations by signifying NEFT or NIP as the chosen transfer type.

2.4.5 NIBSS Electronic Funds Transfer (NEFT)

NEFT was introduced in Nigeria in 2004 to reduce high dependency on cash and make available a range of payment systems to bank customers. The modes of this payment can be through NEFT credit transfer (single items), Bulk clearing-Automated direct credits, Bulk clearing –Automated direct debits. NEFT credit transfer is irreversible fund transfer order since the payer's bank basically will not agree to the instruction if there are inadequate funds to cover the payment instruction and this helps to reduce the trouble of returned cheques in the transaction. Bulk clearing- allows corporations or organizations to present numerous direct credit or direct debit instruments, through clearing banks to the automated clearing period. Payments that can be made through Bulk clearing- Automated direct credits are payment of staff salaries, payment of pensions, payments of sundry benefits to several individuals' e.g. shareholders dividends, payment of inter-bank standing orders by banks, and contractor payments. While payments that can be done through Bulk clearing-Automated direct debits are payment of insurance premiums, payment of utility bills (water electricity, telephone bills), and subscription collections [17].

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2.4.6 Mobile Banking

It involves the use of mobile phones to assess your account and connect to financial institutions database which allows you to settle financial transactions. Financial services one can perform using a mobile phone includes funds transfer, balance inquiry, recharging of phones, and payment of bills. [18]States that some of these services are integrated with an interactive system of a voice message that directs a customer through automated provision of relevant account details.

2.5 Theoretical Framework

This subsection captures a quite number of theories that are relevant for the intended study which include Innovation Diffusion Theory and Technology Acceptance Theory. Based on the relevant theories mentioned above, are the most suitable and applicable for the propose study.

2.5.1 Innovation Diffusion Theory

The Innovation Diffusion theory by [18] asserted that diffusion is the process by which an innovation communicates through certain channels over time among the members of a social system. Rogers explained the process of Innovation diffusion as one, which is dictating by uncertainty reduction behavior amongst potential adopters during the introduction of technological innovations. [19] Used DOI theory to investigate the adoption of ATM in Nigeria. They findings showed that constraints such as relative advantage, complexity, observability, compatibility and trialability were positively related to attitude to the use of ATM cards in Nigeria.

2.5.2 Technology Acceptance Theory

Technology Acceptance Theory (TAT) developed by [19] the technology acceptance theory postulates the adoption of Technology Acceptance Model (TAM) in businesses to increase economic growth [20] the technology acceptance theory is one of the theories that have been developed to provide a better understanding of the usage and adoption of information technology. It is presently a prominent theory used in modeling technology acceptance and adoption in information systems research. TAM is an information systems theory that models how users come to accept and use a technology that will encourage economic growth. The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it. The factors are Perceived Usefulness (PU) and Perceived Ease-of-Use (PEOU). According to TAM, one's actual use of a technology system is influenced directly or indirectly by the user's behavioral intentions, attitude, perceived usefulness of the system, and perceived ease of the system.

2.5.3 Bank Focused Theory

This theory was propounded by [21] and anchors on the ground that banks use non-traditional but conventional low-cost delivery channels to provide services to its numerous customers. Such channels include the automated teller machines (ATMs), Internet banking, Point of Sale (POS) among others. By making use of these channels, the bank offers a wide range of services to its customers not minding the location and branch where the customer is. The only thing required is to input the needed information into the system and the transaction is concluded. This theory supports this study since the emphasis here is on electronic platforms as a means of delivering services.

2.5.4 Non-Bank-Led Theory

This theory was put forward by [21] in this theory, customers do not deal with any bank and they do not maintain any bank account. The customers only deal with is a non-bank firm such as mobile network operator or prepaid card issuer who they exchange their cash with for e-money account. The e-money account is then stored in the server of this non-bank agent. This tends to represent the riskiest platform in the electronic payment methods because of the lack of existing regulatory framework upon which these agents operate.

2.5.5 Transactions Cost Economics Theory

[22] Postulated the Transaction cost economics theory and states that transaction costs arise every time a product or service is being transferred from one stage to another, where new sets of technological capabilities are needed to make the product or service. It further states that the transaction costs related to the exchange of resources with the external environment could be reflected by environmental uncertainty, opportunism, risks, bounded rationality, core company assets. These factors above will all potentially increase the external transaction costs, where it may become rather expensive for a company to control these factors. Therefore, it may very well be more economical to maintain the activity in-house, so that the company will not use resources on e.g. contracts with suppliers, meetings and supervision. Therefore, if companies see the environmental uncertainty as high, they might choose to not outsource or exchange resources with the environment. This theory supports the influence transaction costs on the financial performance. Firms intending to adopt cashless payments must choose between two options that are to purchase a cashless payment system from the vendors or to build its own cashless payment system to reduce its operational costs.

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2.6 Empirical Review

A was carried out and examined cashless policy and its impact on the Nigerian economy using quarterly data from 2011(Q1–Q4) to 2017 (Q1–Q4). The variables includes Cheques Cleared Value (CHEV), Automated Teller Machine Payment Value (ATMV), Point of Sale Value (POSV), Web/Internet Transfers Payment Value (WEBP), Mobile Payment Value in Nigeria (MOBP) and National Electronic Funds Transfer Value (NEFT) as proxy for the adoption of cashless policy and Gross Domestic Product (GDP) as proxy for its impact on Nigerian economy. Empirical results reveal that there is relationship between CHEV, ATMV, POSV, MOBP, NEFT and GDP in the long-run. The short run regression results also revealed that the use of cashless policy instruments particularly ATM, WEB and NEFT have positive and significant impact on gross domestic product in Nigeria [22]. This positive impact is as a result of usage of e-transactions through technology acceptance and diffusion of innovation of cashless policy in Nigeria. The results also revealed that CHEV, POSV and MOBP have inverse and insignificant impact on Gross Domestic Product in Nigeria.[23]Investigated the electronic channels and bank performance: empirical evidence from Nigeria for 2009 to 2017. The study use regression technique to test the strength and nature of relationship between the dependent and independent variable. The performance of the Nigerian banking sector was proxied by Total Bank Deposit while transaction values of Automated Teller Machine (ATM Debit Cards), Mobile Banking, Point of Sales (POS) and Web Pay was used as proxy for electronic banking. This study became necessary considering the increasing popularity of e-channel products in Nigerian banks and world over. The correlation results show that electronic channel products (ATM, POS, Web pay, Mobile Pay) are positively and significantly related to bank performance. [23]Carried out a study to examine the impact of cashless banking on profitability in banking industry of Pakistan for the period of 2013-2018. The study selected five banks from Pakistani banking sector who are offering cashless banking and have major market share. Three major options were selected i.e. point of sales transactions, mobile banking transactions and internet banking transactions. The profitability ratios provide a real estimation about the increase or decrease in profitability of a firm within a financial year. [23] Investigated the cashless policy and financial performance of commercial banks in Nigeria. The study employs Panel data on sample of 14 banks covering 6 years spanning from 2012 when the policy was introduce in Nigeria to 2017. The study use return on Asset as proxy for bank performance while the value transactions done through the ATM, POS, Internet Banking, NIP and NEFT platforms (E-banking Products) were used to proxy cash less policy. The study use Descriptive Statistic Analysis and Correlation testing. Findings from the study revealed that that (ATMV) has a positive and significant effect on return on assets (ROA) of banks in Nigeria while , POSV, WEBV, NIPV and NEFV were found to have a positive but insignificant effect on ROA of quoted banks in Nigeria. [24] examined the effect of cashless policy on the profitability performance of commercial banks in Nigeria [24]. The study uses ATM and POS as proxy for the adoption of cashless policy and ROA and ROE as proxy for profitability and using the Ordinary least Square multiple regression analysis, the study revealed that there is a high positive correlation between the adoption of cashless policy and commercial bank profitability in Nigeria. Their multiple regression results also revealed that the use of cashless policy instruments particularly ATMs and POS increases the ROA and ROE of the banks. They therefore recommended that the cashless policy should be strengthened and all bottle necks like poor power supply and all loopholes that could lead to fraudulent exposure be tactically and proactively tackled.

2.7 Conceptual Framework

Based on the review of previous studies, the model below is generated. The model illustrates the proposed framework that serves as the basis for this study. It is used to focus on the links among the independent variable (Automated teller machine (ATM), Cheques, Mobile payments, Point of sales (P.O.S), Internet WEB transactions, NIBSS Electronic funds transfer (NEFT), NIBSS Instant Payment (NIP)) towards the dependent variable operational performance (ROA) [25].

III. METHODOLOGY

3.1 Research Design

The study has adopts the ex-post facto research design to evaluate the effect of cashless policy on operational performance of commercial banks in Nigeria. The study has make use of secondary data to be obtained from Annual Statistical Bulletin of the Central Bank of Nigeria [26]. The two methods of statistical data analysis; Descriptive and Analytical Statistics was be used to estimate and present information as appropriate using specified data and econometric models. Given that, the time series data was be used for the estimation and analysis, in order to obtain proper estimates, they was subjected to formal pre-test of stationary tests for unit root of Augmented Dickey Fuller (ADF) test. The informal pre-test of descriptive statistics and graphs was also employed to examine the co-movement of the variables. For the post-test, the study was employed Lagrange Multiplier Serial Correlation, ARCH Heteroscedasticity and Ramsey RESET Test as the second order econometric diagnostic tests to ensure that results obtained meet the Ordinary Least Squares criteria and do not suffer from non-normality and

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models mis-specification. After these, result obtained was be tested against stated hypotheses to determine whether the satisfied economic a-priori conditions. From these an interpretation and discussion of the results was be done from which valid conclusion was be drawn and appropriate recommendations shall be made.

3.2 Population of the Study

The population of this study is fifteen (15) Commercial Banks in Nigeria. The population of the study therefore consists of all the fifteen (15) commercial banks that are listed on the Nigerian Stock Exchange (NSE) as at 31st December 2018. For the purpose of the study, the entire population was serves as the sample size of this study owing to the fact that the researcher could cover the whole population rather than sampling out some. Thus, the whole fifteen (15) listed commercial Banks in the Nigerian Stock Exchange constitute the study sample as all the banks was be considered. The population of the study is shown in Table 1.

Table1: Population of the Study

S/N	Commercial Banks	Code	Year of Listing on NSE
1	Access Bank, Nigeria Plc	ABN	1998
2	Diamond Bank Nigeria Plc	DBN	2005
3	Eco-Bank Nigeria Plc	EBN	2004
4	Fidelity Bank Nigeria Plc	FIBN	2005
5	First Bank Nigeria Plc	FBN	1971
6	First City Monument Bank Plc	FCMB	2004
7	Guaranty Trust Bank Plc	GTB	1996
8	Jaiz Bank	JB	2011
9	Skye Bank Plc	SBN	2006
10	Stanbic IBTC Plc	IBTC	2005
11	Sterling Bank Plc	STRBN	1992
12	Union Bank Nigeria Plc	UBN	1970
13	United Bank for Africa Plc	UBA	1971
14	Unity Bank Plc	UNBN	2006
15	Zenith Bank Nigeria Plc	ZBN	2004

3.3 Method of Data Collection

This study will be based on secondary source of data generation. Such data will be obtained from publications of the annual report and accounts of the listed commercial banks in Nigeria as well as Central Bank of Nigeria (CBN) Statistical Bulletin. The audited annual financial reports and accounts will be used to collect the data for both dependent and independent variables of the study as used by previous studies such as [25-26].

3.4 Instruments of Data Analysis

Research experience over time has shown that the robustness of analytical methods is not based on the extent of complications or difficulties of the analytical techniques rather, it is a function of its appropriateness in explaining the phenomenon being studied – i.e., its ability to capture the explanatory variables and data for a realistic/workable explanation. Since the data to be use is time series, preliminary tests have to be carry out before proceeding to estimation. The first test is unit root test, which will help to ensure that the mean and variance is the same [27]. This is important since stationary of the variables to be use in a regression is crucial for the properties of standard estimation and inference. In this study, descriptive statistical analysis, multicollinearity test, correlation testing, and herteroskadaticity testing.

3.5 Model Specification

The specification of a model is based on the available information relevant to the objectives of the study in question as adopted by the study conducted by [28]. Here, the predictor is cashless policy and the dependent variable is commercial bank performance.

Model 1: This research also set out to determine volume of payments channels on operational performance of commercial banks in Nigeria. This model will investigate the volume of patronage of the Automated Teller Machines (ATMs), Mobile Payments (MP), Point of Sales (POS), NIBSS Electronic Funds Transfer (NEFT), NIBSS Instant Payment (NIP) as well as Internet (WEB) based transactions. All these are as against the Return on Assets as proxied for operational performance of commercial Banks in Nigeria. The functional relationship of this model is express in equation 1;

$$ROA = f(ATMVol, MPVol, POSVol, WEBVol, NEFTVol, NIPVol)$$

Equa1.

The mathematical form of the model is express in equa 2.

$$ROA = \varphi_o + \varphi_1 ATMVol + \varphi_2 MPVol + \varphi_3 POSVol + \varphi_4 WEBVol + \varphi_5 NEFTVol + \varphi_6 NIPVol + U_t$$ Equa. 2

Where:

ROA = Return on Assets
ATMVol= Volume of Transaction by Automated Teller Machine
MPVol = Volume of Transaction by Mobile Payments
POSVol= Volume of Transaction through Point of Sale

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WEBVol= Volume of Transaction by Web/Internet (Web)
NEFTVol= Volume of Transaction by NIBSS Electronic Funds Transfer
NIPVol = Volume of Transaction by NIBSS Instant Payment

Model 2: To ascertain which payments channels dominate in value of transactions and its effect on operational performance of commercial banks in Nigeria? Similar to the first model, this second model sought to investigate the magnitude in value of transactions of Automated Teller Machines (ATMs), Mobile Payments (MP) by banks, Point of Sales (POS), Value of Transaction by NIBSS Electronic Funds Transfer (NEFT) and Value of Transaction by NIBSS Instant Payment(NIP) as well as Internet (WEB) based transactions. All these are as against the Return on Assets proxied for operational performance of commercial banks in Nigeria. The relationship is represented in a functional model in equa 3;

$$ROA = f(ATMVol,\ MPVol, POSVol, WEBVol, NEFTVol, NIPVol)$$
Eqn. 3

The mathematical form of the model is express in equation 4.

$$ROA = \varphi_o + \varphi_1 ATMVol + \varphi_2 MPVol + \varphi_3 POSVol + \varphi_4 WEBVol + \varphi_5 NEFTVol + \varphi_6 NIPVol + U_t$$ Equa. 4

Where:

ROA = Return on Assets
ATMVal= Value of Transaction by Automated Teller Machine
CQVal = Value of Transaction by Cheques
MPVal = Value of Transaction by Mobile Payments
POSVal= Value of Transaction through Point of Sale
WEBVal= Value of Transaction by Internet (Web)
NEFTVal= Value of Transaction by NIBSS Electronic Funds Transfer
NIPVal = Value of Transaction by NIBSS Instant Payment

IV. RESULTS AND DISCUSSIONS

Table 2: Model Summary

Model	R	R Square	Adjusted R^2	Std Error of the Estimate
1	0.255[a]	0.060	0.043	1.766

a.Predictors: (Constant), DFT, CP

Table 2 above portrays the model summary which provides the relationship between the cashless policy, delivery of financial transactions and cash movement. The correlation coefficient R is 0.255 with coefficient of variation of 0.060. This is an indication that there is a very weak positive relationship between joint effect of delivery of financial transactions, cash movement and cashless policy. It also further revealed that only 6% variation in cashless movement can be accounted for by the joint effect of cashless policy and delivery of financial transactions.

Table 3: ANOVA data

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	18.924	3	8.963	2.780	0.061[b]
Residual	270.033	88	3.111		
Toatl	287.566	90			

The ANOVA in Table 3 gives F value of 2.780 and significant value of 0.061 which is greater than 0.05 significance value. Hence the model is not adequate in relating cashless policy, cash movement and delivery of financial transactions. Moreover, none of the independent variable is significant, since the significant (Table 4) value of all the variables are greater than 0.05 (that is, cashless policy significant value is 0.463 and significant value for delivery of financial transactions is 0.089).

Table 4: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.522	1.643		7.612	0.000
	CP	0.080	0.209	0.074	0.737	0.463
	DFT	0.171	0.199	0.296	1.820	0.089

a. Dependent Variable: CM

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.395[a]	0.077	0.057	1.822

a. Predictors: (Constant), INA, CP

Table 5 provides the model summary for the relationship between the cash movement, cashless policy and internet availability. The correlation coefficient R is 0.395 with coefficient of variation of 0.077. This is an indication that there is a very weak positive relationship between joint effect of cash movement, cashless policy and internet availability. It also further revealed that only 8.7% variation in cash movement can be accounted for by the joint effect of cashless policy and internet availability.

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Table 6: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27.472	2	13.236	4.290	0.017[b]
	Residual	288.646	88	3.318		
	Total	427.118	90			

a. Dependent Variable: CM
b. Predictors: (Constant), INA, CP

The ANOVA Table in 6 gives F value of 4.290 and sig value of 0.017 which is less than 0.05 significance value. Hence the model is adequate in relating cash movement, internet availability and cashless policy. Moreover, all the independent variables (Table 7) are significant, since the significant value of all the independent variables are less than 0.05 (that is, cashless policy significant value is 0.049 and internet availability significant value is 0.019). Then, the model can be specified as:

$$CM = 10.082 + 0.203CP + 0.207INA$$

This implies that, if all internet availability remains constant, a unit increase in cashless policy will result in about 20.3% increase in cash movement. And also, unit increase internet availability will cause 20.7% increase in cash movement provided cashless policy remain constant.

Table 7: Coefficient[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.082	2.250		4.480	0.000
	CP	0.203	0.106	0.194	1.915	0.049
	INA	0.207	0.087	0.241	2.386	0.019

Where:

CP: Cashless policy
CM: Cash movement
INA: Represent internet availability.

V. CONCLUSION

Cashless economy policy reduces the amount of cash-based transactions to the nearest minimum. In Nigeria, the concept tries to discourage the idea of cash transactions. However, the introduction of electronic banking in Nigeria has a strong influence on the development of payment system. It involves commitment of huge amount of financial resources on computer technology, telecommunication facilities, internet services and regular supply of electricity. The study has used return on Asset as proxy for banks performance while the value transactions done through the ATM, POS, Internet Banking, NIP and NEFT platforms (E-banking Products) was used to proxy cashless policy. In other to ensure the validity and the reliability of the data, the data was subjected to a diagnostic test using Descriptive Statistic Analysis, Multicolinearity test, Correlation testing, and Herteroskadaticity testing. Findings from the study revealed that ATMV has a positive and significant effect on return on assets (ROA) of banks in Nigeria while, POSV, WEBV, NIPV and NEFV was found to have a positive but insignificant effect on ROA of quoted banks in Nigeria.

CONFLICT OF INTEREST

Authors declare that there is no conflict of interest.

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