

**EFFECT OF ELECTRONIC PAYMENT SYSTEM ON BANK'S PERFORMANCE IN
NIGERIA**

BY

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**A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF ACCOUNTING
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Declaration

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Certification

This is to certify that this research work “Effect of Electronic payment system on banks’ performance in Nigeria” by Adeniji Ruth Bukola in the Department of Accounting and Finance has been examined and approved as meeting the requirements for the award of Bachelor Science (B.Sc.) Degree in Accounting, College of Humanities, Management and Social Sciences, Mountain Top University, Ogun.

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Dedication

This project work is dedicated to God Almighty for His infinite mercy, grace, love, wisdom, understanding and protection upon me, and it is also dedicated to my loving and wonderful parent Mr. and Mrs. Adeniji for their love and support.

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Abstract

This study examined the effect of Electronic Payment System on the Bank's performance in Nigeria from 2012-2018. The study used the Banking Index from the Nigerian Stock Exchange as the measure of the performance of banks. The study used ex-post -facto research design, while the data for the payment platform was sourced from the Central Bank of Nigeria annual reports. The payment platforms used are Point of Sale (POS), Automatic Payment System (ATM), Nigerian Interbank Electronic Fund Transfer (NEFT) and Nigerian Interbank Instant Payment (NIP). Regression analysis was used to analyze the data. The analysis was carried out using the Statistical Package for Social Sciences (SPSS). The empirical result revealed that there is no significant relationship between the banking index and Point of Sale transactions with a p-value 0.705. The study also revealed there is no significant relationship between Automatic Payment Machine (ATM), NEFT and NIP. The p-value of these is 0.681, 0.866 and 0.763 respectively. The study recommended that dealings charged out to be reviewed to a little or no charge at all to encourage more patronage of e-payment platforms while CBN, Deposit money banks (DMB) ought to give public enlightenment and awareness programs which will encourage the unbanked people into the banking industry particularly those within the informal sector in Nigeria.

Keywords: Electronic Payment System, Deposit Money Banks, Point of Sale, Automatic Teller Machine

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The payment mechanism is a network of activities governed by legislation, regulations and guidelines linking a bank account and offering monetary functionality via bank deposits (summers, 2012). The payment system is structured; it consists of institutions, instruments, laws, processes, standards, and technical methods set up for influencing the transfer of monetary value between Parties discharging contractual obligations. Its technical effectiveness determines the productivity and risk of transaction cash use in the economy. (Friedrichsberg, 2001).

In the recent wake of development in information and communication technologies, most banking operations in the public and private sectors have been computerized by most banking institutions, especially in the last two decades, and the process of expanding and improving the computerization of financial services in the banking industry is still underway. (Mutombo,2006).

Activities of the financial sector of the country were heavily characterized by cash-based transactions through the deposit money banks. And over time effort has been made to reduce the usage of physical cash in the economy by CBN. The payment system before now was cash-based and the shift from cash-based payment system to the cashless payment system was through the introduction of E-banking. In recent times, electronic payment innovation has brought about several electronic payment channels and subsequent establishments of financial technology companies. The full embrace of technology by the financial sector was seen through the adoption of the cashless policy by the Central Bank to boost the performance of the economy and the financial sector (commercial bank) as well.

Hence, banks performance is crucial to financial sector development. In 2012, the implementation of electronic banking platforms/technologies adopted the directives of the Nigerian central bank to facilitate cashless systems the development of electronic banking platforms/technology was launched in 2012 following Nigeria's Central Bank Directives to enable cashless systems. According to Kelvin N. Amugo (2018),Nigeria's central bank proposes the establishment of payment service banks by asking all banks to provide payment system

licenses and regulations such that they can encourage financial inclusion and expand access to financial services by leveraging technology for low-income earners and unbanked segments of society. Many sectors of the economy especially the banking sector have been using the information system which can be viewed essentially as a social system with some technological elements. This suggests a change from initial techno-centric orientation to more advanced technology, management, organization, and social focus. It also emphasizes the application of technology and the interactions between people, organizations, and technology.

Today's business environment is extremely dynamic. As a result of technological advances, increased knowledge and demands for bank services, it has undergone rapid changes. The 21st-century banking industry operates in a dynamic and competitive environment characterized by these evolving circumstances and a highly volatile economic climate; ICT is also at the forefront of this economic transformation. Info and communication technologies (ICT). Amedu (2005) says that over time, banks have used electronic and telecommunications networks to offer a wide range of value-added products and services. Also, information systems cannot be disregarded, since they play a vital role in Nigeria's current banking system. E-payment, known as a quick electronic data interchange (EEDI), is also an important aspect of the market method and the growth of e-commerce because of the widespread use of online shopping and banking.

Modern technology development promotes the adoption of electronic payment for online and offline transactions. Humprey (2001) also define the electronic payment system is characterized as cash and related transactions that are carried out through electronic means. The use of the internet and digital stored value system is typical in this regard, thereby allowing bill payment or debit transfer is done directly from the bank. The use of the internet and the digitally stored value method is common of this respect, allowing payment of the bill or debit transfer by the bank directly. Agimo (2004) points out an electronic payment system, as opposed to check-and-cash payment, such as direct credit, electronic credit card information transfers or any electronic means of payment. Therefore, any means of shopping online through a network like internet is an electronic payment device. Among several others, e-payment phases include transaction procedure, payment cost, security /confidentiality of customer information and availability of the network. Many new payment services have appeared in recent years, most of them based on technical advances such as wallets, telephones, and the internet (Abor, 2004).The use of payment

cards (smart cards) and paper instruments were introduced by the Central Bank of Nigeria (CBN) in 1993.

Similarly, CBN adopted a broad one-banking guideline in 2004 that included the introduction of the E-money product such as credit and debit cards of the automated teller machine (ATM) (Salimon, 2006). There is currently a method of real-time gross settlement (RTGS) that reduces the risk involved in the payment of large value. However, in terms of creating an effective payment mechanism resulting from certain attitudinal and social issues, not much result has been achieved, as manifested in enormous amounts of money residing outside the banking sectors (Ojo, 2004). Electronic Payment system as a byproduct of an information system, in this world today is gradually changing from the use of cash payment to mostly electronic payment system such as point of sales (POS), automated teller machine (ATM), E-banking, debit card, credit card etc. To put it plainly, the use of an electronic payment mechanism for financial transactions is seen in this current dispensation, especially by banks, financial institutions, and some other undertakings.

In this advanced contemporary corporate environment, handling electronic payment is a necessity for efficiency, every company aims to get the best possible output through the internet from technology. The electronic payment system is of considerable importance in the management decision-making of the banking industry since the electronic payment system must meet those objectives to keep your business running effectively (Gallati, 2003). In addition to their convenience and protection, Electronic Payment Systems (EPS) also have a large number of economic benefits, including mobilizing savings and ensuring that most of the money available to banks operating in the country. This will make funds available to borrowers, both companies and citizens. Also, an electronic payment system has the potential to control individual spending; to promote the banks' design of goods. This data is also helpful to the government when making decisions.

The operational payment system is also necessary for enhancing market efficiency to strengthen the financial system and help the banking sectors in the improvement of their transactions and other financial transactions. The technological advancement that has given birth to the electronic

payment system has greatly boosted consumer confidence in the banking system, thus, an effective payment system bears a substantial effect on banks performance.

1.2 Statement of the Problem

It is expected that an efficient and modern payment system would reduce the cost of banking services (including credit costs) and boost financial inclusion by offering more efficient alternatives for transactions and greater financial inclusion, as well as enhancing the efficacy of monetary policy in the management of the banking sector. The known previous method of banking involving cash payment, cheques, payment order and bank transfer is very costly and time-consuming as customers must wait in the bank for long hours, yet they are limited by bank closing hours.

The importance of the electronic payment system should not be overemphasized, as the overall rise in economic development and progress in the quality of financial intermediation has contributed significantly. Over the past few decades, the advancement in technology has greatly influenced the payment system as a significant shift is seen from cash-based to cashless system. Thus, this implies that the operational payment system will lead to an improved and efficient financial sector with a lot of side benefits like reduction in the cost of banking and increase in performance of the banking sector.

In view, the population sizes of Nigeria and the level of economic and social activities sticking to the cash payment system will not doubt to drag the wheel of economic and social developments backwards especially in this global information technology and artificial intelligence. Some of the problem of a cash-based system before the shift to the cashless system was that there was a low volume of transaction, low velocity of circulation of money, high tendencies of inaccurate payments and low level of the payment system. So, therefore, without electronic payment system, it will be difficult for banks to service its customers speedily and efficiently.

This study examines the effect of the electronic payment system on bank's performance and specifically to determine or ascertain whether there is a significant effect of point of sale (P.O.S), automated teller machine (ATM), NIBSS (Nigerian Interbank Bank Settlement System) Electronic Funds Transfer (NEFT), NIBSS Instant Payments (NIP) on bank performance using NSE banking index.

1.3 Objective of the Study

The key purpose of this analysis is to examine the impact of the electronic payment system on the performance of banks in Nigeria. The basic aims of this research are:

- To examine the significant effect of point of sales (POS) on banks' performance.
- To evaluate the significant effect of the automated teller machine (ATM) on banks' performance.
- To ascertain if there is a significant effect of NIBSS Electronic Funds Transfer (NEFT) on banks' performance.
- To evaluate if there is a significant effect of NIBSS Instant Payments (NIP) on banks' performance.

1.4 Research Questions

- To what extent does the point of sale (POS) affect banks' performance?
- Does an automated teller machine (ATM) have a significant effect on banks' performance?
- To what extent does NIBSS Electronic Funds Transfer (NEFT) affect banks' performance?
- Does NIBSS Instant Payments (NIP) have a significant effect on banks' performance?

1.5 Research Hypotheses

H0: Point of sales (POS) does not have any significant effect on banks' performance.

H1: Point of sales (POS) has a significant effect on banks' performance.

H0: Automated teller machine (ATM) does not have any significant effect on banks' performance.

H1: Automated teller machine (ATM) has a significant effect on banks' performance.

H0: NIBSS Electronic Funds Transfer (NEFT) does not have any significant effect on banks' performance.

H1: NIBSS Electronic funds transfer (NEFT) has a significant effect on banks' performance.

H0: NIBSS Instant Payments (NIP) does not have any significant effect on banks' performance.

H1: NIBSS Instant Payment (NIP) has a significant effect on banks' performance.

1.6 Scope of the Study

The main scope of the study is to examine the effect of the electronic payment system on bank performance and specifically ascertains whether there is a significant effect of POS, ATM, NIBSS Electronic funds transfer (NEFT), NIBSS Instant Payment (NIP) on bank's performance. Thus, in this study, the researcher is looking at all deposit money banks in Nigeria, for the period of seven years between 2012 to 2018.

1.7 Significance of the Study

The electronic payment system in Nigeria has greatly improved the banks' performance and has made many banks to achieve their goals, which they intend to facilitate and speedy payments with a view to saving time, transactions turnover and velocity of circulation of money. Thus, this study is carried out to know whether the electronic payment system has positively or negatively improved the bank's performance using the banking index as a measurement of the banks' performance. This study is important to the user of information such as investors, banks, regulatory (CBN), management and creditors. And the study helps them in the following ways;

- It helps the investors to ascertain whether the E-payment system is good for investment.
- It helps the banks to know whether E-payment system is profitable.
- It helps the regulatory (CBN) to know whether the banks' performance in Nigeria has improved positively or negatively.
- It helps the management to know if the E-payment system is reliable.
- It helps the creditors to ascertain whether E-payment system is the right means to accept debt from their debtors.

1.8 Operational Definition of Terms

Payment system Is a payment system any mechanism used to resolve financial transactions via the transfer of monetary value through a payment device. A common mode of payment mechanism is also called the operating network in the 21st century, which connects bank

accounts and uses bank deposits to exchange currency. Credit schemes are also available in some payment systems, which are primarily another payment component.

The electronic payment system refers to a scheme of settlements made from one bank account to another through electronic means and which forgoes direct interference by bank employees. Point of Sale (POS), Automated Teller Machine (ATM), E-banking is some of these electronic payment systems. Performance implies the performance or performance of specific duties or the result of a service undertaking.

Performance means the implementation or accomplishment of tasks or the outcome of a duty undertaking.

Bank performance can be described as representing the process in which a bank's resources are utilized in a manner that assists the institution to achieve its objectives. Also, the phrase bank performance entails the implementation of a collection of metrics that are symbolic of the desired objectives.

Point of sale (POS) a vital aspect of a POS payment platform refers to the location where the Charge for services or products is made by a consumer, in which consumption taxes might be payable. That may be in a physical shop where POS terminals and computers, such as a computer or phone or an internet point of sale, are used for collecting card payments.

An automated teller machine (ATM) it is an electronic telecommunications system that enables financial institution customers to carry out financial activities, such as withdrawals of money, deposits, transfer of funds or account data, and other banking transactions without the aid of a bank clerk or cashier.

NIBSS Electronic Funds Transfer (NEFT) It is a nationwide payment mechanism which accelerates the transfer of one-to-one funds. Under this platform, people can electronically move money from any party's bank branch to any other party that has an account with another bank branch in that same country.

NIBSS Instant Payments (NIP) It is an online real-time Inter-Bank account-number payment solution created by NIBSS in 2011. The favored fund transfer network of the Nigerian financial

industry, which guarantees the receiver instant value. And NIP was also chosen for the study course.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter helps in providing the background of the context of the research problems. It reviews the existing literature on the effect of the electronic payment system on banks' performance. The researcher of this study is going to review the following in this chapter: the conceptual framework, theoretical framework, and empirical review.

2.1 Conceptual Review

The conceptual review includes the review of this study which is the concept of the electronic payment system, types of e-payment, electronic payment channels-forms, costs and benefits, economic benefits of an electronic payment system in Nigeria, characteristics of e-payment systems, challenges of electronic payments, among others.

2.1.1 Concept of an Electronic Payment System

In the financial markets of the world, advances in information and communication technologies are the market. Therefore, the adoption of new technology is important to achieve a competitive advantage. E-banking has an immense influence on the production of more reliable payment systems and user-friendly banking facilities in the banking world. A payment mechanism consists of a series of transfer mechanisms to ensure the movement of money through instruments, banking procedures and, usually, interbank funds. Furthermore, we should conclude that payment systems are the foundation of a payer-payer link for widening the payment scheme in detail – Payment mechanism is simply a third party that allows payer and payor to pay and collect money.

The different definition has been given to what is called electronic payment. Electronic payments are a major part of a corporation or an organization, according to Chapma (1996). The electronic payment system is a kind of information system for inter-organizational monetary exchange which connects many organizations. Complex connections between stakeholders, technologies and the ecosystem may be required. The electronic payments are sometimes referred to as online

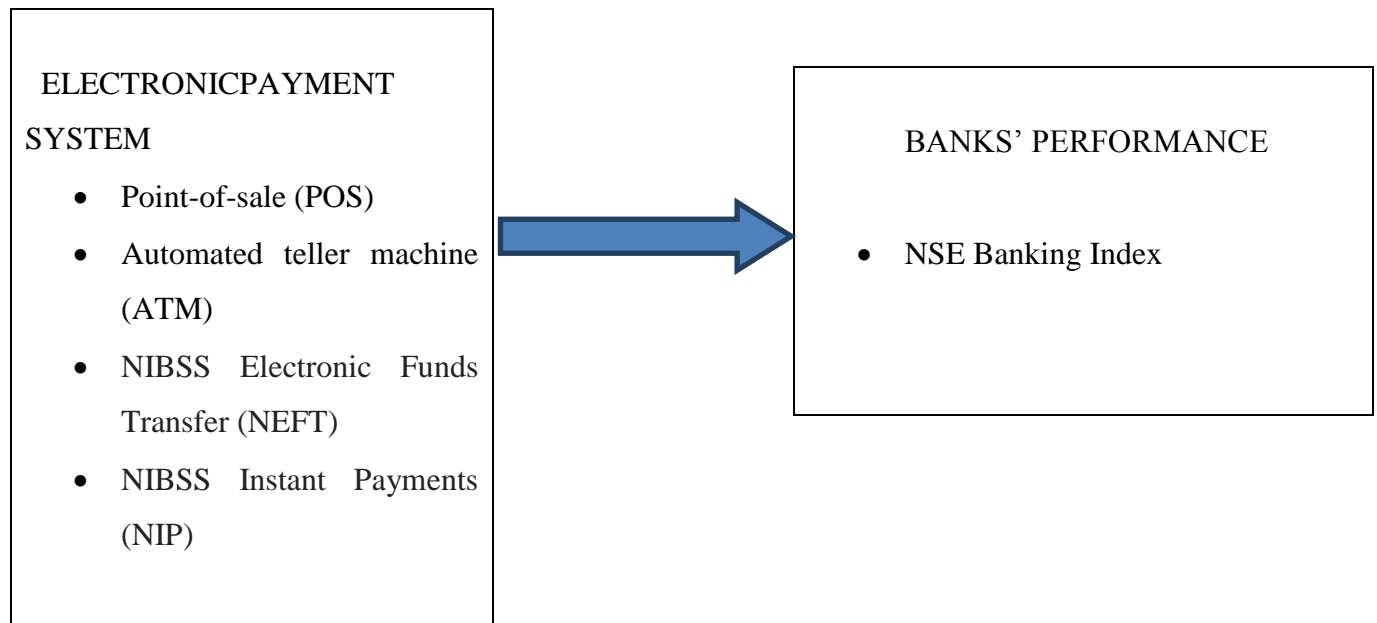
mutual finances between buyers and sellers (William 1997). The trading material is generally a type of digital financial instrument, supported by a bank, agent, or tenderer (e.g. encrypted credit card numbers, electronic checks, or digital cash). Electronic paying services are described as a mode of financial exchange between the purchaser and the seller employing electronic communication by Delali (2010) in Vassiliou (2004).

According to Cobb (2004), electronic transfers are rated to make a greater contribution to the overall economic growth than immediate comfort and protection of cards. The word electronic payment can only be used in e-commerce – the payment of goods and services for purchasing and distribution over the Internet, or in general for some form of transactions of electronic funds (Massimo & Garcia 2008). The electronic payment was described by Ayodele (2007) as an electronic cash transfer, via online transaction, for business to business (B2B), business-to-contract (B2C), personal-to-person (P2P). Collection of A2C applies to the government's payment of taxes. E-payment described by Humphrey, Kim & Vale (2001), by electronic means, as cash and related transactions. In general, electronic networks such as the internet and the digital stored value system are used. This method permits the payment of charges from the bank directly and without the use of written and mailing checks.

In comparison to payment by check and cash, Guttman (2003) described e-payment as credit card information or other electronic means. It is also known as a transition by a payer of monetary claim to a beneficiary's appropriate party (Worku, 2010). An electronic means for payment of bills or other transactions, such as cards, phone cards, Internet, EFT etc. may also be described as simple, safe, and secure. Electronic payment offers customers an option for currency, cheque, money order, etc. to pay bills and debts. Its key goal is to reduce trades in cash and cheques. In the context of Nigeria, e-payment makes payments from one side to the next. The computer medium is capable of electronically paying suppliers, vendors and personnel wages without manual interventions other than the entry of payment data (Agba 2010).

Independent variable

Dependent variables



Source: Author (2020)

The conceptual review shows the effect of an electronic payment system on banks' performance in Nigeria.

2.1.2 Evaluation of E-payment in Nigeria

The goal of introducing e-payment systems in Nigeria is explicitly met with only some objectives. These include among others the following:

- Elimination of a few threats in the transport of vast funds, such as armed criminals, theft, burglary, among others.
- At least federal departments don't pay cash to 'contractors' and officials anymore.
- Elimination of the use of cash to facilitate speedy payments for all transactions. To a very large degree, however, the following goals have not been reached. Quick monitoring of government policy implementation by eliminating government payment system delays. There are cases of delay in payment to contractors who are not prepared to play ball. There was a concern regarding problems associated with the e-payment model from some contractors handling projects in rural areas. Minimize interaction of government, officials and contractors to eliminate the opportunity for corruptive tendencies this would be hard

to remove as an interaction at which all levels would proceed formally or informally if Nigerians are, to be frank with themselves. In every case, there is a need to ask the question. Who are the contractors? Is the government's due process working or not? Who are the officials subverting this and other laudable programmed of government? Will the system stamp corruption out of the system? Economic achievement and productivity of public finance transactions. There will be no efficiency in the system for as long as corruption exists within the polity. To repair this cankerworm that has defiled all remedies, the EFCC and the judiciary will have to find a shared basis. China's example may be the best solution among some Nigerians, except for the tribal and religious sentiment.

- Enhancement of real-time reporting and improve quality of financial reporting system in the public sector it has been observed that since the implementation of the policy, there have been late returns or no response in respect of unapplied funds. The existing system cannot guarantee real-time reporting of finances. There have been late returns or no reaction to unapplied funds. The new system does not guarantee financial reporting in real-time. As result, there can be no good financial reporting (Ogedebe& Babatunde, 2012).

2.1.3 Types of electronic payment

There are two ways of e-payment in the sense of Nigeria;

- **End to end processing:** Here the whole process is carried out online, from permissions to value reception by the receiver.
- **E-payment manual or use of mandate:** This is a combination of manual and electronic processes in which the technology available cannot accommodate end-to-end delivery.

However, there are many types of e-payments, including wallets, mobile Internet payments, kiosks for financial services, biometric payments, electronic payment networks, etc.(Osibote, 2010; Asaolu, Ayoola & Akinkoye, 2011).

2.1.4 Electronic Payment Channels-Forms, Costs and Benefits

In 1990, Humphery and Berger attempted to measure the expense of the payment instrument by using a 1987 data set. It measured the personal and social costs of nine instruments, including checks, passenger checks, transactions, shop points, automatic house transfers, money orders, currency, ATM bills and bill payments. They calculated the expense of the nine instruments. Their results show, from the social-cost viewpoint, that cash is the cheapest payment mechanism, with the Automated Clearing House (ACH). However, the cheque, followed by currency, ACH, and POS, is the check's cheapest payment form from the private perspective.

Kolawole observed that the valuation of checks between 1987 and 1993 deteriorated dramatically as interest rates decreased and the production of checks increased. However, while the float value decreased, checks have not been used to decrease; instead, they have risen by 20%. The author, therefore, criticized Humphrey and Berger's hypothesis which clarified the use of checks. Gul has researched how Norwegian banks process and assess their cost elements in different payment instruments. Instruments used include checks, credit cards, electronic giro and ATMs. They observed that all payment systems distribute indirect expenses, such as employees, construction costs, Computer Systems, marketing, and office supplies, thus the total costs. They believe that paper payments (physical cash) are more expensive than electronics.

The advantage of adopting a card for events was investigated by Kolawole. The general-purpose card was replaced by exclusive store cards. It was noticed that a single credit card with the capacity to receive further discounts was useful. Ma proposed three criteria deciding private use, including customer income, ease, and personal engagement, in electronic banking. Protection, privacy, budgeting, control, and basic transaction factors (i.e. variable quantity bill versus fixed quantity) and transaction size were also considered.

2.1.4.1 Economic Benefits of an Electronic Payment System in Nigeria

The internet has achieved an unprecedented level of growth with electronic payments and transfers, Delali (2010) said at Fiallos& Wu (2005). Consumers may buy products from the internet and submit unencrypted network credit card numbers that provide little protection and secrecy. However, when customers became aware of their privacy and protection there was a

broad range of new protected network payment schemes created. For financial institutions, banks and dealers, digital money has major advantages (Fiallos & Wu, 2005).

Digital Money is a technology for electronic payment and, like paper currency, can supply anonymous versatile electronic payment but which also has security specifications for internets. A protected electronic cash structure in Lee, Choi & Rhee's related work (2003) will ensure the privacy of legal consumers, as well as traceability of unlawfully issued cash or money laundered. Where there has been criminal activity, digital cash anonymity will be cancelled to secure the bank. As digital money tracks double investment and double expenditure preserves contents with a double identity, Lee, Oh & Lee (2004) added that digital cash is a stupid way to defend against the illicit distribution of intellectual property and materials. Digital money can also be used to discourage the duplication and dissemination of illicit material by incorporating monitoring variables into the digital cash payment mechanism that prohibits consumers from conducting individual reproduction practices (Lee, Oh and Lee, 2004). Through using this feature, legitimate, anonymous consumers can deliver content to anonymous paid users in compliance with copyright law. Digital money will increase the demand for goods in industries such as digital entertainment through simpler and safer delivery channels.

This technology and its protection feature also help Digital Media entertainment providers and distributors to monitor anyone who unlawfully replicates and distribute copyrighted intellectual content and thereby improving protection for writers and delaying the earnings and sales lost by entertaining new media firms at the same time (Lee, Oh & Lee, 2004). The use of the payment and delivery process will avoid and ultimately eradicate software and intellectual property infringement. Digital cash will offer decentralized structure to financial institutions, quicker transfers and decisions and more cost-effective business practices.

In addition to their convenience and protection, electronic payments (Taddesse & Kidan 2005) provide substantial economic benefits. These advantages will go much deeper and positively add to a nation's economic growth. The deepening of bank deposits by automatic electrical transfers raises available funds for business loans-a catalyst of the economic activity in general. Effective, stable, and easy electronic payments have major macro-economic benefits in line with Taddesse & Kidan (2005). "It is like using gears on the bicycle that electronic payments affect. Increase the economy by installing a strong electronic payment system and pick it up. Add better-

regulated customer and industry credit and further increase economic speed "(Taddesse & Kidan 2005).

Although the high volume of cash purchases offers the mobile payment industry a shot, it still puts a cost on the local economy. Cash must be minted, securely transported, counted, and conciliated, secured, and kept repeatedly for reuse. The cost per bill is high. The cost of an automated device is still high. The cost per transaction is very low after the system has been installed. Cardholders are helping to retain money in the financial system as they use their wallets. EPS will assist the replacement of dark economies, introduce secret transactions into the banking system, and improve transparency, trust, and financial system engagement.

Taddesse & Kidan (2005) acknowledged the association between growing sales volumes and increasing deposits in demand. "Electronic automated payments act as a gateway into the banking sector and as a strong growth engine. Such transactions originate cash from circulation or savings deposits, and is a generator of overall economic development, offering low-cost funds that can enable bank lending. This mechanism improves openness and transparency to boost productivity and economic performance. For the user, electronic payment is incredibly easy.

In most cases your account data-like your credit card number and shipping address must only be entered once. The data is then stored in a web server account of the retailer. You just login with your username and password when you return to the website. "Confirm the acquisition and you are finished is as easy a transaction, as clicking on the mouse." Worku (2010) stressed that electronic payment eliminates costs for firms. The less money you expend on paper and postage the more automatically generated payments. The electronic payment will also help organizations increase retention of consumers. "Excuse consumers who have entered and saved their details on the E-commerce website".

According to Taddesse & Kidan (2005), electronic payments can thus lower transaction costs stimulate higher consumption and GDP, increase government efficiency boost financial intermediation and improve financial transparency". They further added that "Governments play a critically important role in creating an environment in which these benefits can be achieved in a way consistent with their economic development plans". The introduction and use of electronic payment instruments hold the promise of broad benefit to both business and consumers in the

form of reduced, greater convenience and more secure reliable means of payment and settlement for a potentially vast range of goods and services offered worldwide over the internet or other electronic networks. One such benefit is that electronic payments enable bank customers to handle their daily financial transactions without having to visit their local bank branch.

In terms of cash management, electronic payment products could save traders time and costs (Appiah & Agyemang, 2007). 13% of a GDP which accounts for the resource cost of the payment system of a country. Provided that most electronic payments cost just about one-third to one-half the price of non-cash paper payments, it is apparent that if automated the social costs of a payment system can be significantly decreased (Appiah & Agyemang, 2007). Electronic payments made through self-service networks, including ATMs, branch terminals and point-of-sale systems can be simplified and optimized by reducing p systems in partnership with Global Insight, research carried out by the Visa Canada Association showed that electronic payments have customer, retailer, bank, and economic transactional performance.

Electronic payments have contributed \$107billion to the Canadian economy since 1983 and represent nearly,25% of the \$C437 billion cumulative growth in the Canadian economy over the same period (Delali, 2010). Over the same two decades, \$C60 billion of the increase in personal consumption expenditures was directly attributable to electronic payments, with credit card holding a commanding share of this growth (\$C49.4 billion) over debt cards (\$C10.4 billion) (Delali, 2010).Nigeria is well behind most of the world, in the general quest to boost microeconomic activity by reducing the role of natural cash in day-to-day transactions as well as promoting cashless society (Dankwambo, 2009). Financial sector experts, however, stressed that if something radically innovative, functional, and knowledgeable is introduced that can be prevented (Dankwambo, 2009).

2.1.5 Characteristics of E-Payment Systems

To allow payment over the Internet, electronic payment systems must provide the technology required. They are becoming an essential part of, and are greatly necessary for, further development of electronic commerce and electronic business and of a curse, payment must have the following characteristics to become accepted around the world. Atomicity must be ensuring that during the transaction no loss of existing money and the new transaction can be made.

- **Confidentiality/Information kept secure:** The record of transaction kept in the organization as safe as can be and it should only be available to the confidential level if there is any need for trace back at some stage.
- **Security:** The system must ensure the possibility of fraud within the system.
- **Availability:** The system must be available during the said working hours.
- **Cost-effective:** The transaction cost must obey the rules as per authority.
- **The ability of integration:** The system must ensure that it can work with all other existing payment systems that resemble the properties and they must be integrated with the new payment system within the same environment.

2.1.5.1 Challenges of Electronic Payments

Electronic payments are, among their many advantages, even in the developing world with their problems. Ogedebe & Babatunde's (2012) problems in Sumanjeet (2009) usually revolve around the issue of combating e-payment.

- **Integrity:** To check the financial information transmitted in transit remains unchanged.
- **Non-reputation:** Ensure the non-deniable verification of reception is accessible to both parties.
- **Confidentiality:** To ensure that transactions are safeguarded from potential eavesdroppers.
- **Reliability:** To ensure that the probability of failure is minimized.
- **Authorization:** To ensure that the desired rights and privileges are acknowledged and given to individuals.

The system which is still in its early stage requires a lot of information and education of the public to enable them to appreciate the laudable programmed put together by the government to protect their interests. The odds of the programming being reasonable can be ensured if correctly and properly trained. The banks must also play an important part in the implementation process.

Lack of Uniform Platform of Banks and MDAs

The legislation demands that the banks use a similar tech interface is not convincing. Each bank is permitted to use the e-payment services on behalf of its customers whatever platform it feels.

The concern is that payments are made from one bank to another. Interconnectivity was a problem. No uniformity of account numbers as multiple banks has different numbers. Thankfully enough, according to Dankwambo (2009), the Federal Government will soon establish a shared forum through the Office of the Accountant General of the Federation.

Lack of Adequate Infrastructure

Part of the e-payment system is in operation. A variety of IT infrastructures would need to be built to be completely implemented. These include but not limited to laptop, desktop, scanners, good internet connectivity, training, and global software. Ovia (2002) has a big problem in delivering essential information technology infrastructures.

Platform Security

Atanbasi (2010) said that e-payment protection is the key challenge in the region. The platform, hacker, and virus assault protection. This guarantees consistent and correct performance from the machine. The MDAs are still on the banks of compact disks (CDs), flash drives or e-mail attachments.

Lack of Seriousness by Banks

While several banks have deployed the necessary infrastructure in place to ensure effective implementation, it is sad to note that some banks are still not fully ready for this new payment regime.

Resistance to changes in technology among customers and staff due to:

- Lack of awareness of the benefits of new technologies
- Fear of risk
- Lack of trained personnel in key organizations
- The tendency to be content with the existing structures.
- People are resistant to new payment mechanisms.
- Security. Where private data is revealed, it could be rampant that payment information is falsified and illegally altered (Daukwambo, 2009);

High Rates of Illiteracy

The low level of literacy poses a significant obstacle to e-payment, as it prohibits banking services becoming available. To ensure that people enjoy e-payments in full, they should also have basic ICT literacy not just how to read and write.

The High Cost of the Internet

A key consideration is the cost of Internet connectivity for per capita revenue. The entry costs into the e-payments and e-commerce sector are higher relative to developing nations. This includes high start-up costs, high device expense and specifications for telecommunications, and licensing.

Frequent Power Interruption

The shortage of reliable supplies is a big obstacle for e-payments and e-banking to operate smoothly. Microfinance Nigeria (2010) reports that urban residents are not responsive to ICT investors' efforts to move their payment systems through significant investments in crucial infrastructure such as POS terminals in thousands of supermarkets, fuel stations, hotels, recreational centers and many others.

2.1.6 History of the Regulatory Regime

The CBN has strong powers to control fiscal and monetary policy matters in Nigeria. Sections 47(2) and (3) of the Act (the Act) of the Central Bank of Nigeria allow the CBN to encourage and encourage the development of reliable and successful transaction settlement systems (including electronic payment systems). The CBN also has the authority to lay down rules and regulations for all clearing and settlement processes to function efficiently.

The CBN had not been as professionally prepared to monitor and manage electronic networks in Nigeria until a couple of years ago, which resulted in the up regulation of most of the industry activities. The CBN then released merely permission letters to companies in Nigeria desiring running payment systems. In 2007, however, CBN released the Vision 2020 Payment Systems, which established a package of guidelines aimed at improving payments system technology and workflows resilience to facilitate using electronic payment methods. The program aimed to

promote economic activities by offering secure and reliable channels for payments with minimal risks for CBN, payment service providers and end-users, expanding their usability and usage to all segments of the market and geographies, banks and unbanked and compliance with globally agreed levels of legislation, technology, and operations. The CBN started to establish the technological skills required to regulate the industry in compliance with the above objectives and started enforcing the necessary regulatory structure to achieve these objectives. As a result, everything in the Nigerian payments industry gets harder and harder without the CBN's approval being needed.

Quite recently, via a letter, the CBN advised that, while criteria for the regulation of operators of web payment portals and gateways were not established, any company desirous of operating a web payment portal or gateway must apply and obtain a Payment Solution System Service Providers (“PSSP”) license. The theory is that, for ease of monitoring and oversight, the CBN aims to put all agencies and parties interested in the Nigerian payments sector into its jurisdiction. The existing regulations below and the implications of working without receiving a license from the CBN or in violation of the license terms and conditions issued by the CBN have been addressed.

2.1.6.1 Current Regulatory Regime

The CBN has released numerous recommendations to recommend rules and regulations for the efficient functioning of all clearing and resolution processes in the exercise of its powers. Some of these guidelines include:

- Guidelines on Electronic Payment of Salaries, Pensions, Suppliers and Taxes in Nigeria, February 2014;
- Guidelines on Transactions Switching Services;
- Guidelines on Point of Sale (POS) Card Acceptance Services; and
- Regulatory Framework for Mobile Payments Services in Nigeria.

The above guidelines regulate all the operators in the Nigerian payments system and prescribe sanctions for erring service providers. The CBN released a circular on 9 July 2015 entitled 'Sanctions on erring banks and e-payment service providers for violations of payment laws and

regulations.' This circular provides for a sufficient penalty to be levied on an operator in the Nigerian payments system for violations of current CBN directives, circulars, laws, and regulations on all types of electronic payment systems.

The CBN recently published an exposure draft of the Requirements and Recommendations on Electronic Networks Operations in Nigeria on 9 September 2015 for public review and feedback. It is proposed that the public will review and forward suggestions on this advice to the CBN to allow it to gather the opinions of industry professionals and operators. When implemented, most of the current CBN guidelines for all electronic payment systems in Nigeria will be codified by this guideline.

The following are relevant operators in the Nigerian payments system industry, Card Holders, Merchants, Merchant Acquirers, Card Schemes, Payment Solution System Service Providers (“PSSP”), Switching Companies, Internet Service Providers, Issuing Banks, Nigerian Central Switch, Nigeria Inter-Bank Settlement System, Payments Terminal Service Aggregator (PTSA) etc. Under the Nigerian payments system, no person or organization can offer any services without receiving a license from the CBN.

2.1.7 Phases of Electronic Payment

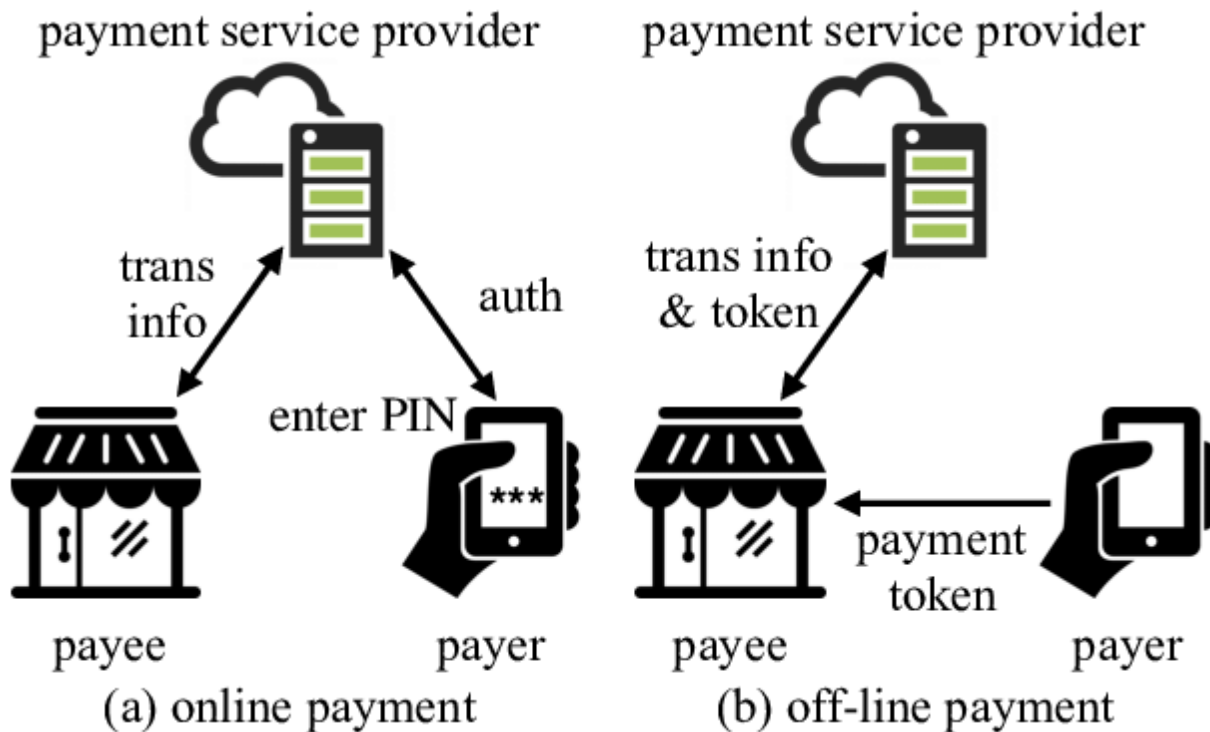
An electronic payment typically involves the following phases:

- **Registration:** This stage involves the payer and the payee being registered with the issuer and the acquirer, respectively. Most of the electronic payments built enable payers and payees to be registered with their respective banks such that a connection occurs between their identity and the accounts kept at the bank.
- **Invoicing:** The payee obtains an invoice for payment from the payee in this process. This is achieved either by searching and choosing items to be bought from the merchant's (payee's) page in the event of internet transactions or by receiving an automatic invoice through other forms of electronic correspondence, such as e-mail. Usually, this stage is carried out in an unsecured setting and is commonly omitted when constructing payment protocols. The significance of this stage is that the mandatory and optional data variables that should be used in a payment protocol are defined.

- **Selection and processing of payments:** In this step, the payer chooses the form of payment (card-paid, e-cash, e-cheque, etc.) based on the payment type approved by the payee. The payer then sends the necessary payment information, such as account number, special payer identifiers to the payee, and the agreed sum based on the invoice, dependent on the range. Any protocols which also enable the payer to receive the issuer's pre-authorized token (like bank drafts) before the payer sends the payment data to the payee.
- **Payment authorization and confirmation:** In this process, the acquirer authorizes the payment and provides a receipt bearing the success or loss of the payment to the payee on receiving payment information from the payee. The payee dependent on the message can even issue the payer with a receipt of payment.

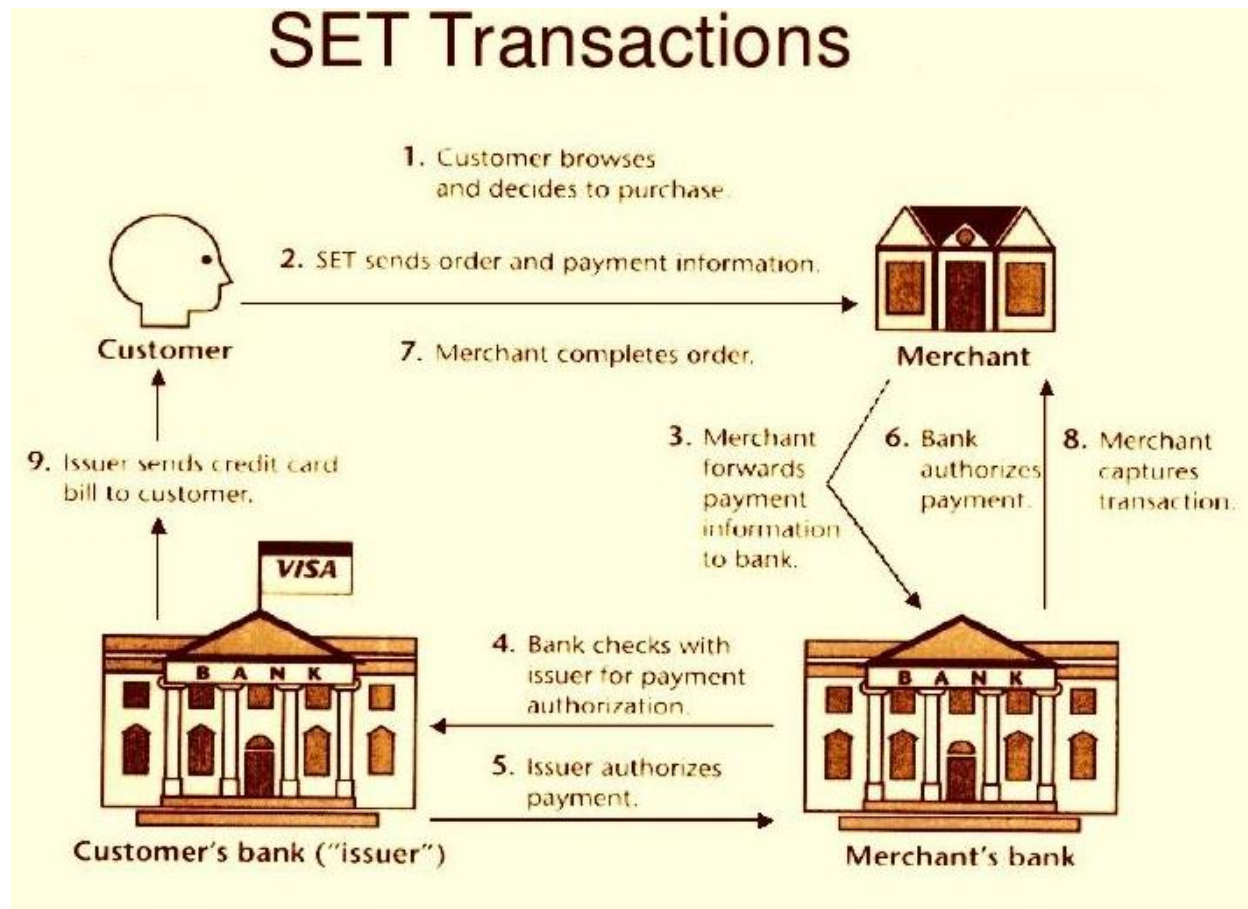
2.1.7.1 How E-payment Works

Depicts the working of basic e-payment system and there are many more versions of this model which is not our concern, so the author is not including other models.



2.1.8 SET– Secure Electronic Transaction

The author "Arnab" wrote in his paper, that two leading credit card firms have been developing structured payment and security processes since 1996. Master Card and Visa Card have been together with IBM and other companies, thus establishing Secure Electronic Transfer–SET. Secure Electronic Transaction Protocol: To perform transaction successfully and without facing problems related to security and trust, business-related group and communities, financial sectors wanted a solution that works a very close to the way how a credit card work. SET is regarded as a very safe electronic payment handler; it removes theft and was one of the key purposes behind the set's appearance. SET uses different techniques to prevent fraud by using rigorous authentication measures in addition to the encryption as we saw in our previous protocol. SET, Secure Electronic Transaction provides a high level of security and privacy for its customers and ensures that the information will only see by the Bank.



2.1.9 Definition of Electronic Payment System Channels

Point of Sale (POS) A critical part of a point of purchase refers to the location where the order for goods or services is received by a buyer and where sales taxes may be payable. In a physical shop, it can be processable with POS terminals and systems when purchasing cards or a virtual seller such as a computer or a handheld electrical device.

Automated Teller Machine (ATM) is an electronic telecommunications system that allows financial institution clients, always and without the need for direct contact with banking personnel, to execute financial transactions, such as cash withdrawal, purchases, and transference funds or obtain account information.

NIBSS Electronic Funds Transfer (NEFT) It is a nationwide payment mechanism which accelerates the transfer of one-to-one funds. Under this platform, people can electronically move money from any party's bank branch to any other party that has an account with another bank branch in that same country.

Fund transactions through the NEFT system do not exist on a real-time basis, unlike real-time gross settlement (RTGS). NEFT settles half-hourly fund payments with 23 transactions happening on weekdays between 8:00 a.m. and 7:00 p.m. and on the first, third and fifth Saturdays of the calendar month. At the next available window, transactions initiated beyond this time frame are resolved. Settlements shall not be made on the second or fourth Saturday of the month, or Sundays or public holidays.

There will be 48 half-hour batches between 00.30 a.m. and 00:00 a.m. every day from December 16, 2019, regardless of a holiday or otherwise, as of November 30, 2019, NEFT facilities were available at 1,48,477 branches/offices of 216 banks throughout the country and online through the NEFT-enabled bank's website. NEFT has gained attention because of the simplicity and reliability with which it is possible to complete transactions. The amount of funds which could be transferred with NEFT is not limited-whether minimum or maximum.

NIBSS Instant Payments (NIP) is Online-real-time payment solution developed by NIBSS for online-real-time account numbers during 2011. It is the preferred fund transfer site of the Nigerian financial industry that guarantees immediate benefit to the receiver. With only two (2)

commercial banks as members, the NIP service commenced. Today, however, both commercial banks, Micro-Finance Banks (MFBs), and Mobile Money Operators (MMOs) have expanded the number of participants. Over the years, Nigerian banks have disclosed NIP to their customers through their different networks, i.e. internet banking, bank branch, kiosks, smart phone applications, unstructured additional service data (USSD), POS, ATM, etc.

Main advantages for customers and companies of NIP. NIP provides all parties in the supply chain with great value: customers benefit from improved convenience, businesses benefit from reliability in payment processing, increased liquidity and reduced payment risks, and banks and other financial institutions can develop services around it to satisfy their ever-changing customer needs, especially digital banking offerings.

Key Benefits of NIP to consumers and businesses

NIP offers great value to all parties in the value chain:

- Enhanced convenience is available to customers
- Corporations benefit from productivity in payment collection, improved liquidity, and lower payment risks
- Banks and other financial institutions can develop services to meet their constantly evolving consumer needs, especially digital banking.

2.2 Theoretical Review

Theories are propounded to clarify the reasoning behind people's actions and responses to the electronic payment system introduced in Nigeria. Various theories exist to explain reasons for E-payment in Nigeria, examples are;

2.2.1 Bank Focused Theory

Kapoor (2010) suggested this hypothesis and claimed that banks use non-traditional but traditional low-cost distribution platforms to offer their customers services and such channels include, among others, point of sales (POS), automated teller machine (ATM), mobile payment, and electronic bill payment. The bank provides a wide variety of offerings to its clients by using these networks, independent of location and branch attachments. All that is needed is to input

into the system the required details and the transaction is completed. As the emphasis here is on electronic platforms as a means of delivering services, this theory favors this research.

2.2.2 Bank-led Theory

This theory was propounded by Lyman, Ivatury and Staschen (2006) and it emphasizes on the role of an agent who acts as a link between the banks and the customers. In this case, the retail agents have direct interaction with the banks' customers and perform the role expected of the bank by either paying cash or collecting deposits. Finally, this agent is expected to transmit all his dealings with the bank's customers to the bank he is representing through electronic means (such as phones, internet, etc.).

2.2.3 Non-bank-led Theory

Hogan (1991) popularized this hypothesis. Customers do not deal with a bank here and do not maintain a bank account. All the consumers must negotiate with is a non-bank business for whom they swap their cash for an e-money account, such as a mobile network provider or a prepaid card issuer. An e-money account is then deposited on this non-bank agent's computer. Owing to the lack of the current legal system on which these e-agents run, this appears to represent the riskiest channel of electronic payment methods.

2.2.4 Social Construction Theory

The most relevant theory for analyzing internet banking is that of Trevor Pinch and Wiebe Bilker's social construction of technology theory. The theory argues that technology does not determine how and in what ways technology is used.

2.2.5 Technological Acceptance Model

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 new technology. He stated that two beliefs determine the complete acceptance of the technology. These beliefs are perceived usefulness and perceived ease of use. Perceived usefulness is a factor that affects users' 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.

Fred Davis described how simple the use of new technology for users is for perceived ease of use. It means that it should be easy to use modern technologies. Nigeria was a major cash-based economy before the adoption of the cashless scheme. To maximize the influence of the policy on people, individuals need to assume that the policy will be easy to use and that it will therefore contribute to good performance, leading to economic development. To make electronic payments convenient, e-banking items must also be re-engineered to stir the nation into a cashless economy (Nwankwo and Eze, 2013). According to TAM, the practical usage of a technology device is specifically or implicitly affected by the user's actions, mood, perceived system utility and perceived system ease.

2.2.6 Diffusion of Innovation Theory

This study could be anchored on roger's (1995) Diffusion of innovation (DOI) theory is a fashionable model employed in system analysis to clarify user adoption of the latest technologies. Rogers describes diffusion because the methodology of creativity in that associate degree is transmitted by the participants of a collective community over time through connected networks (Rogers, 1995).Innovation is a concept or object that seemed to be new (Rogers, 1995). Per the interior department, the speed of diffusion is littered with associate degree innovation's relative advantages, complexity, compatibility, trial ability and observability.

Rogers (1995) defines relative advantage as a result of the degree to it associate innovation is seen as being superior to its predecessor; quality, that is admire TAM's perceived simple use construct, is that the degree to that associate degree innovation is seen by the potential parent as being comparatively troublesome to use and understand. Compatibility refers to the degree to that associate degree innovation is seen to be commutable with existing values, beliefs, diffusion of innovation theory Roger's (1995) Diffusion of innovation (DOI) theory could be a fashionable model employed in system analysis to clarify user adoption of latest technologies. Rogers defines diffusion because the method by that associate degree innovation is communicated through bound channels over time among the member of a social society (Rogers, 1995).

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department, the speed of the diffusion is littered with associate degree innovation's relative advantage, complexity, compatibility, trial ability and observability. Rogers (1995) define relative advantage because the degree to that associate degree innovation is seen as being superior to its predecessor; quality, that is admire TAM's perceived simple use construct, is that the degree to that associate degree innovation is seen by the potential parent as being comparatively troublesome to use and understand. Compatibility refers to the degree to it associate innovation is seen to be commutable with existing values, beliefs, experiences, and desires of adopters. Trial ability is that the degree to that the results of associate degree innovation area unit visible (1995).

2.2.7 Schumpeterian Theory of Creative Destruction

Schumpeter (1939) who saw innovations as perpetual gales of creative destruction that were essential force driving growth rates in a capitalist system. Schumpeter's thinking evolved over his lifetime to the extent that some scholars have differently aired his early thinking where innovation was largely dependent on exceptional individuals willing to take on exceptional hazards as an act of will, i.e., entrepreneurs, from his later thinking that recognized the role of large corporations in an organization and supporting innovation. This resulted in his emphasis on the role of oligopolies in innovation and which later was falsely viewed as the main contribution of his work. (Freeman, 1994).

Schumpeter (1928) pointed to the discontinuous and unquiet nature of technological amendment in the market economy that brings the indivisible combination of short-run insatiably and long growth. He was not a technological determinist but recognized the social and organizational force that played the key roles in his cyclist process of industrial change. Schumpeter argued that, with their inventions, pioneers who might be private investors or R&B engineers in big companies created the potential for a fresh return. On the other side, teams of imitators drawn by great profits will unleash an investment surge that would erode the gross margin for innovation. But before the economy could balance innovation or set innovations as Kondratievl cycles, the business cycle must start again.

For all his insight into the position of invention, the root of innovation was still not clarified by Schumpeter. He was able to point to its role in timing economic cycles, but his sources were not answered. This quite clearly allowed social science economic theory to argue that the

explanation behind creativity was investment levels. In the 1960s, it was not unity that economists would continue to seek the root of creativity again. Researchers such as Abramovitz (1956) and Solow (1957), who were able to show how little neo-classical economics could be clarified, emphasized the value of the invention. Solow found that just 12.5% of the growth in per capita production was based on data on the U.S. economy from 1909-49.

2.2.8 Theoretical Framework

Therefore, the theory of Technological acceptance model was adopted in this research because this principle 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 new technology. This principle considers the policies that will be easily used and result in positive performance thereby, leading to economic growth.

2.3 Empirical Review

This review is concerned mainly with relevant practical applications of the theoretical underpinnings. The effect of E-payment system on banks' performances in Nigeria has been investigated in prior research studies. However different factors have been used to measure the E-payment in Nigeria banks. This section is divided according to the research objectives. Some of these works are identified below:

Chimaobi(2018) investigated the impact of internet banking on profitability of commercial banks in Nigeria: zenith bank as a case study from 2005 to 2017, the study adopted ex-post-facto research design and adopted return on assets (ROA), return on equity (ROE) and net interest margin (NIM) as performance indicators. Findings show that the empirical results of the study have revealed a significant relationship between the log of internet banking services expenses (IBSE) and return on asset (ROA).

The Effect of the Electronic Payment System on the Financial Performance of Financial Institutions in Rwanda was studied by Jean Bosco Harelimana (2018), a case study by Equity Bank Ltd was performed between 2012 and 2016. Data obtained were analyzed using descriptive statistics and linear multiple regression analysis and then displayed in statistical tables. The result

indicates that clear processing processes for loans of 33.5% are the factor affecting access to electronic payment.

After the complete implementation of the electronic banking system, Chibueze., Maxwell and Osondu (2013) analyzed the profitability efficiency of Nigerian banks, the data collected covers the period 1997-2010. The method of judgmental sampling was introduced using data from four banks in Nigeria. Return on equity (ROE) and return on assets (ROA) evaluated the profitability performance of those banks. Findings indicate that the implementation of electronic banking increased the return on Nigerian banks 'equity (ROE) positively and substantially and disclosed that e-banking did not significantly increase the Nigerian banks' (ROA) capital returns. The findings of this study inspired further recommendations for bank customers, banking managers and electronic banking shareholders.

Mustapha (2018) analyzed E-Payment Technology Impact on Bank Performance in Developing Economies-Evidence from Nigeria, the study period from 2012 to 2017, Thus contributing to this debate with three research innovations: First, adopting a new metric of bank efficiency, the Sortino index, and second, the banking risk market exposure to electronic payment technologies. Findings show that after the adoption of electronic payment technologies, bank performance increased and shows that bank performance contradicts autoregressive and random walk processes, implying that investors should not be disturbed by previous bank performance, but worried about current bank resources.

Van Dinh (2015) investigated the Impacts of Internet Banking to Bank Performance: The Vietnamese evidence, from 2009-2014, covered the relationships of the Internet indicators to bank output using the random efficacy (REM) and fixed-effect model (FEM) to estimate. The results indicate that internet banking, with a rise in revenue from service operations, has an impact on bank profitability. The effect degree, however, was poor and had a lag period of over 3 years, which is longer than previous studies' results.

Okello (2016) investigated the effect of electronic retail payment services on the financial performance of commercial banks in Kenya; the study sample comprises the forty-three commercial banks for five years, between 2011 and 2015. This study maximized on the secondary data of the banks as registered with the Central Bank of Kenya. He used Descriptive

design to measure, analyze, compare, and interpret data to understand the impacts of electronic retail payment services on commercial banks in Kenya. His findings were that the average ROA for all commercial banks was 2.6099, the average number of transactions for all commercial banks was 7, 207,348, the average number of ATMs for all commercial banks was 50, while the average number of several agents for all commercial banks was 204 agents. The findings established that the adoption/use of electronic retail payment services has improved the performance in the banking industry by ensuring its productivity and efficiency is greatly improved.

Rauf, Qiang & Sajid (2014) investigated Electronic Debit Card Usage and their Impact on Profitability of Pakistan Banking Sector: ROA, Model, and the study period ranged from 2004 to 2013. The findings show that the increase in the use of debit cards increases the profitability of the banking sector in the form of ROA for the quarterly period 2004 to 2013. Therefore, in the process of converting paper-based transactions into electronic-based transactions, this analysis and limitations can be further advised to minimize costs and increase customer loyalty by the high quality of service delivery.

Jegade (2013) investigated the Effects of Automated Teller Machine on the Performance of Nigerian Banks, 5 banks were random sampled from the 25 banks. Frequency distribution and Chi-square were used to analyze the data collected and examined the pattern of response to each variable under investigation. Findings suggest that the Automated Teller Machine adds to the productivity of the banking sector and finds that the introduction of ATM terminals has increased the efficiency of Nigerian banks on average less than the gains due to the alarming incidence of ATM fraud.

Ngango, Mbabazize, Shukla (2015) investigated E-banking and performance of commercial banks in Rwanda: A case of bank of Kigali, for a period of four years (2010 - 2013).

The study used descriptive research design by basing on the qualitative and quantitative approach to get a better analysis of the study. Both primary and secondary data collection tools were used with their relevant tools like questionnaire and documentary analysis to come up with the required data. Findings suggest that electronic banking services such as ATM, direct payment, transfer of electronic checks, cell phone banking, and E transfers have a significant

effect on bank results because they improve profitability, decrease operational bank costs, and increase bank asset and banking productivity.

Taiwo & Agwu, (2017) investigated the role of e-banking on the operational efficiency of banks in Nigeria. The study was based on four purposively selected banks (Ecobank, UBA, GTB and First bank). The survey design was employed to evaluate the effectiveness of the following e-banking channels- internet banking, smart card banking and mobile/telephone banking in the performance of deposit money banks in Nigeria. To evaluate the findings obtained using the Statistical Package for Social Sciences (SPSS), Pearson correlation was used and it was observed that the operating performance of banks in Nigeria has increased relative to the period of conventional banking since the introduction of electronic banking. The results indicate that the implementation of new platforms into their e-banking activities has greatly improved bank performance, as the more involved customers are, the more profitable they are for banks with their electronic transactions.

David &Kaulihowa (2018) investigated The Impact of E-Banking on Commercial Banks' Performance in Namibia, the scope of the data covers the period from the first month of 2012 (2012:M1) to the eighth month of 2015 (2015:M8). Using descriptive statistic. Findings show that return on investment is significantly driven by interbank settlement systems, electronic funds transfer and cheques, with an adjustment of 32% per month.

Odhiambo (2013) analyzed the effect of electronic banking on Kenya's financial results between 2008 and 2012. The study used descriptive and inferential statistics in the assessment of the results. The study shows that e-banking has a strong and substantial impact on commercial banks ' profitability within Kenya's banking sector. Thus, the relationship between e-banking and bank success is good. The significance test shows that the impact of bank innovations on bank profitability was statistically important, which means that the aggregate impact of bank innovations in this study is statistically significant in understanding the earnings of Kenya's commercial banks.

Isibor et al (2018) analyzed the influence of electronic banking technologies on the happiness and economic development of customers in Nigeria. In Sango Ota in Ogun county, the researchers went to four banks: Zenith Bank, Guaranty Trust Bank, Access Bank plc, and UBA

plc. The use of the SPSS statistical kit was used to test significance using a statistical parametric test called the Pair Sample t-test. The results indicate that e-banking has increased the loyalty of both consumers and induced economic development in Nigeria. The report proposes sufficient regulations on all facets of e-banking so that it is possible to properly protect both the system's operators and the public. To encourage their clients to take advantage of e-banking services, banks can also offer low or no fees for e-banking services.

2.4 Gaps in the Literature

Many of the empirical frameworks revealed that their payment channels are POS, ATM, E-banking but this research has addition payment channels like NIBSS Electronic Funds Transfer (NEFT), NIBSS Instant Payments (NIP) to also know the effect of these channels on banks' performance in Nigeria.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

The methodology is simply said to be the use of activities that are involved in collecting the information required for research work. This chapter explains how the study was carried out by explaining the analysis and data collection procedures and methods for the study. It includes the research design, population of the study, sample size and sampling techniques, nature and sources of data, model specifications.

3.1 Research Design

To achieve the objective of this study, an ex-post- facto research design was employed using the cession method to extract data from the Central Bank of Nigeria (CBN) statistical bulletin in aggregate. The ex-post- facto research design is aimed at establishing the impact of one variable and another.

3.2 Population of the Study

The total population of the dependent variables is 21 banks licensed by CBN to operate as Deposit Money Banks (DMBs) in Nigeria while the total populations of the independent variables or payment channels are many.

3.3 Sample Size and Sampling Technique

The research size of this study shall be limited to four channels such as point of sales (POS), Automated teller machine (ATM), NIBSS Electronic Funds Transfer (NEFT), NIBSS Instant Payments (NIP). There are many other channels, but this study has been limited to the above listed four channels because they are highly valued driven and they constitute 80% of value and volume of transactions that took place in non-interest banking activities of cashless payment activities. Following this, the study also used all the listed banks on the stock exchange and they are 21 in number.

3.4 Nature and Sources of Data

The nature of data analysis for this study is secondary data and the data used in this study was derived from all Deposit money banks' in Nigeria from 2012-2018.

Data from the secondary source are considered appropriate and are used for this study due to the following reasons:

- They have been used in previous research, making it easier to carry out further research.
- They are already validated by professionals and other regulatory bodies before they were published by the Central Bank of Nigeria (CBN).
- They reduce stress as much of the background work needed has already been carried out.

3.5 Reliability and Validity of the Research Instrument

Reliability and validity represent a set of standards used to evaluate the quality of research. They mean how well something is calculated by a method, technique, or examination. The quality of a measure is about reliability, and the accuracy of a measure is about validity. Validity is defined as the degree of a tool or a measuring instrument to measure what it is designed to measure. Content validity denotes that the contents of the scale are broad enough to cover the full range of the subject matter while construct validity tests the accurate measurement of the diverse phenomena associated with that construct. The figures used for this study were verified and certified by the appropriate regulatory bodies of the Central Bank of Nigeria.

3.6 Method of Data Collection

The study used the cession method to extract data from the Central Bank of Nigeria (CBN) statistical bulletin to determine the effect of the electronic payment system.

3.7 Banks' Performance

Researchers have been using different measurement to measure their banks' performance such as return on asset (ROA), return on equity (ROE) and net interest margin (NIM). However, this study is using the Banking Index of the Nigerian Stock exchange to measure banks' performance in Nigeria.

3.8 Banking Index

This is an index generated by the Nigerian Stock Exchange to measure the performance of the banking sector through the dealings of the sector shares on the exchange. It is often a good measure of performances.

3.9 Model Specification

In this chapter, regression analysis was used. The importance of this regression is to use a mathematical equation to express the nature of the relationship that exists between variables. Simple regression technique is used to capture the relationships between the following;

- Point of sales (POS) and Banking Index
- Automated teller machine (ATM) and Banking Index
- NIBSS Electronic Funds Transfer (NEFT) and Banking Index
- NIBSS Instant Payments (NIP) and Banking Index

The model specification is as follows:

$$\text{BNKGIND} = F(\beta_{\text{ATM}}, \beta_{\text{POS}}, \beta_{\text{NEFT}}, \beta_{\text{NIP}})$$

$$\text{BNKGIND} = \alpha_1 + \beta_1 \text{POS} + \beta_2 \text{ATM} + \beta_3 \text{NEFT} + \beta_4 \text{NIP} + \epsilon$$

Where;

BNKGIND= NSE Banking Index

$\beta_1 - \beta_4$ = slope of the coefficient

POS= point of sale

ATM= Automated teller machine

NEFT= NIBSS Electronic Funds Transfer

NIP= NIBSS Instant Payments

ϵ = error term

3.10 Method of Data Analysis

The quantitative technique of data analysis was used to analyze the data of this research work. Analysis of work was carried using some econometric and statistical packages. The software package used in this study was statistical package for social science (SPSS) to analyze the relationship between the variables of the study. Regression analysis as an econometric package was used to test and establish the relationship between the variables.

CHAPTER FOUR

DATA ANALYSIS, RESULT, INTERPRETATIONS AND SUMMARY OF FINDINGS

4.0 Introduction

The data analysis and results for the research are covered in this chapter. The purpose of the study was to evaluate the impact of the payment system on the performance of Nigerian deposit banks. It, therefore, tried to address the following questions of the study, namely how the performance of deposit money banks in Nigeria could be affected by NIBSS Electronic Fund Transfer, NIBSS Instant Payment, Automated Platforms and Point of Sales (POS). Statistical Bulletin and annual reports of the Nigerian Stock Exchange of the Central Bank of Nigeria (CBN).The collected information was analyzed and interpreted for NIBSS Electronic Fund Transfer (NEFT) performance in Nigeria, to evaluate whether NIBSS Instant Payment (NIP) had a significant relationship to the performance of deposit money banks in Nigeria, to investigate whether Automated Teller Machine Payment was involved in the processing of deposit money banks in Nigeria.

4.1 Preamble

The model summary table provides the R and R^2 values. The basic association is the R-value, while R^2 reveals how much of the overall difference in the dependent variable can be explained by the independent variables.

The next table is the **ANOVA table**, which indicates how well the regression equation matches (i.e. the dependent variable predicts) the data. This table shows that the model of regression greatly predicts the dependent variable well. The statistical importance of the regression run is demonstrated by the value of the regression row with its significance. If the p-value is less than 0.05, it means that, overall, the outcome variable is significantly predicted by the regression model (i.e. it is a good match with the data), otherwise, if it is more than 0.05, it indicates that overall, the outcome variable is not significantly predicted by the regression model.

The **coefficients table** provides the necessary information to predict the dependent variable from the independent variable, as well as determine whether the independent variable contributes

statistically significantly to the model. The values in the ‘unstandardized coefficients’ is made use of.

With **multiple regressions**, the R represents the multiple correlation coefficient, and it is one measure of the quality of the prediction of the dependent variable. The coefficient of decision is also called R², which describes the proportion of variation in the dependent variable that can be interpreted by the independent variables.

The F- ratio in the **ANOVA table** tests whether the overall regression model is a good fit for data. The table shows how the independent variables statistically significantly predict the dependent variables. If the F-statistics value showed a p-value that is less than 0.05, the regression is a good fit of the data, otherwise, if the p-value is more than 0.05, then it is not statistically significant to predict the data and not a good fit of the data.

The **unstandardized coefficients** indicate how much the dependent variable varies with an independent variable when all other independent variables are held constant

4.2 Results and Interpretations

4.2.1 Hypothesis one

Relationship between NSE banking Index (a measure of Bank’s performance) and NIBSS Electronic Fund Transfer (NEFT).

Table 4.1 (a): Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.079 ^a	.006	-.192	87.56060

a. Predictors: (Constant), lnNEFT

Table 4.1 (b):ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	242.568	1	242.568	.032	.866 ^b
	Residual	38334.294	5	7666.859		
	Total	38576.862	6			

a. Dependent Variable: NSE Banking Index

b. Predictors: (Constant), lnNEFT

Table 4.1(c): Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1460.779	10265.465		-.142	.892
	lnNEFT	60.365	339.370	.079	.178	.866

a. Dependent Variable: NSE Banking Index

Interpretation

From the regression tables above (Tables 4.1a-4.1c), the model summary result indicated that there is a positive but weak correlation between NSE Banking Index and NIBSS Electronic Fund Transfer of Nigeria. This is reflected in the value of the co-efficient of the correlation (R) which is 0.079. This value indicates that the strength of the relationship the two variables under study is about 7.9%. The co-efficient of determination (R^2) showed a value of 0.006 which indicates about 0.60%. This result implies that on the average about 0.06% variations in bank's performance within the period under review is systematically explained by changes in Electronic Payment. Thus, not more than 99.40% variations in the banks' performance remain unexplained by this explanatory variable. The coefficient value is 60.365 with a corresponding p-value of 0.866. This is higher than the degree of importance of 0.05 (5%). This indicates a statistically unimportant correlation between NIBSS Electronic Fund Transfer and the performance of banks. Therefore, we support the null hypothesis of no meaningful effect and dismiss the alternative significant impact hypothesis.

4.2.2 Hypothesis two

Relationship between NSE banking Index and Automated Teller Machine payment platform

Table 4.2 (a): Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.191 ^a	.037	-.156	86.21593

a. Predictors: (Constant), lnATM

Table 4.2(b): ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1410.926	1	1410.926	.190	.681 ^b
	Residual	37165.936	5	7433.187		
	Total	38576.862	6			

a. Dependent Variable: NSE Banking Index

b. Predictors: (Constant), lnATM

Table 4.2 (c): Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-662.624	2359.256		-.281	.790
	lnATM	35.412	81.280	.191	.436	.681

a. Dependent Variable: NSE Banking Index

Interpretation

From the regression tables above (Tables 4.2a-4.2c), the model summary result indicated that there is a positive but weak correlation between NSE Banking Index and Automatic Teller Machine platform in Nigeria. This is reflected in the value of the co-efficient of the correlation (R) which is 0.191. This value indicates that the strength of the relationship the two variables under study is about 19.1%. The co-efficient of determination (R^2) showed a value of 0.037 which indicates about 3.7%. This result implies that on the average about 3.7% variations in bank's performance within the period under review is systematically explained by changes in Automatic Teller Machine. Thus, not more than 99.04% variations in the banks' performance remain unexplained by this explanatory variable. The coefficient value is 35.412 with a corresponding p-value of 0.681. This is greater than the 0.05 (5%) significance level. This depicts a statistically no significant relationship between the banks' performance and Automatic Teller Machine payment. We, therefore, accept the null hypothesis of no significant impact and reject the alternate hypothesis of the significant impact of automatic teller machine payment and bank' performance.

4.2.3 Hypothesis three

Relationship between the NSE Banking Index and NIBSS Instant Payment (NIP)

Table 4.3 (a): Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.141 ^a	.020	-.176	86.95833

a. Predictors: (Constant), lnNIP

Table 4.3 (b):ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	768.104	1	768.104	.102	.763 ^b
	Residual	37808.757	5	7561.751		
	Total	38576.862	6			

a. Dependent Variable: NSE Banking Index

b. Predictors: (Constant), lnNIP

Table 4.3 (c): Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	27.236	1060.761		.026	.981
	lnNIP	10.979	34.448	.141	.319	.763

a. Dependent Variable: NSE Banking Index

Interpretation

From the regression tables above (Tables 4.3a-4.3c), the model summary result indicated that there is a positive but weak correlation between NSE Banking Index and NIBSS Instant Payment platform in Nigeria. This is reflected in the value of the co-efficient of the correlation (R) which is 0.141. This value indicates that the strength of the relationship the two variables under study is about 14.1%. The co-efficient of determination (R^2) showed a value of 0.020 which indicates about 2.0%. This result implies that on the average about 2.0% variations in bank's performance within the period under review is systematically explained by changes in Automatic Teller Machine. Thus, not more than 98% variations in the banks' performance remain unexplained by this explanatory variable. The coefficient value is 10.979 with a corresponding p-value of 0.763.

This is greater than the 0.05 (5%) significance level. This depicts a statistically no significant relationship between the banks' performance and NIBSS Instant Payment platform. We, therefore, accept the null hypothesis of no significant impact and reject the alternate hypothesis of the significant impact of NIBSS Instant Payment on banks' performance.

4.2.4 Hypothesis Four

Relationship between the NSE Banking Index and Point of Sale payment platform (POS)

Table 4.4 (a):Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.176 ^a	.031	-.163	86.46283

a. Predictors: (Constant), lnPOS

Table 4.4 (b):ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1197.758	1	1197.758	.160	.705 ^b
	Residual	37379.104	5	7475.821		
	Total	38576.862	6			

a. Dependent Variable: NSE Banking Index

b. Predictors: (Constant), lnPOS

Table 4.4 (c):Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	78.981	715.688		.110	.916
	lnPOS	10.682	26.686	.176	.400	.705

a. Dependent Variable: NSE Banking Index

Interpretation

From the regression tables above (Tables 4.4a-4.4c), the model summary result indicated that there is a positive but weak correlation between NSE Banking Index and Point of Sale Payment platform in Nigeria. This is reflected in the value of the co-efficient of the correlation (R) which is 0.176. This value indicates that the strength of the relationship the two variables under study is about 17.61%. The co-efficient of determination (R^2) showed a value of 0.031 which indicates

about 3.1%. This result implies that on the average about 3.0% variations in bank's performance within the period under review is systematically explained by changes in Point of Sale payment platform. Thus, not more than 96% variations in the banks' performance remain unexplained by this explanatory variable. The coefficient value is 10.682 with a corresponding p-value of 0.705. This is greater than the 0.05 (5%) significance level. This depicts a statistically no significant relationship between the banks' performance and Point of Sale Payment platform. We, therefore, accept the null hypothesis of no significant impact and reject the alternate hypothesis of the significant impact of Point of sale payment on banks' performance.

4.2.5 Overall Regression

Relationship between the banks' performance (proxy by NSE Banking Index) and the Nigerian Payment system

Table 4.5 (a): Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.816 ^a	.665	-.005	80.36829

a. Predictors: (Constant), LNNEFT, LNATM, Innip, Inpos

Table 4.5 (b): ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	25658.737	4	6414.684	.993	.558 ^b
	Residual	12918.125	2	6459.062		
	Total	38576.862	6			

a. Dependent Variable: NSE BANKING INDEX

b. Predictors: (Constant), LNNEFT, LNATM, Innip, Inpos

Table 4.5 (c): Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	4127.962	13548.162		.305	.789
	Lnnip	-1174.758	615.506	-15.098	-1.909	.197
	Lnpos	1546.755	920.792	25.515	1.680	.235
	LNATM	-1789.297	1632.589	-9.663	-1.096	.387
	LNNEFT	1417.829	982.998	1.862	1.442	.286

a. Dependent Variable: NSE BANKING INDEX

Summary

From the overall regression tables above (Table 4.5a-4.5c), the model summary result indicated that there is a positive and strong correlation between banks' performance and the selected payment system platform in Nigeria. This is reflected in the value of the co-efficient of the correlation (R) which is 0.816. This value indicates that the strength of the relationship between the NSE Banking Index which proxy for banks' performance and the independent variables under study is about 81.6%. The co-efficient of determination (R^2) showed a value of 0.665 which indicates about 66.5%. This result implies that on the average about 66.5% variations in banks' performance within the period under review is systematically explained by changes in all the independent variables. Thus, more than 33% variations in the banks' performance remain unexplained by these payment platforms. Since F (4, 2) with its corresponding p-value of 0.558 is more than the 0.05(5%) level of significance, we accept the null hypothesis of no significant impact and relationship between the payment system and banks' performance and reject the alternate hypothesis of significant impact and relationship. The overall regression model therefore can be stated as:

$$\text{BNKGIND} = 4127.962 - 1174.758 (\text{NIP}) + 1546.755(\text{POS}) - 1789.297(\text{ATM}) + 1417.829(\text{NEFT}) + \mu.$$

4.3 Discussion of results

The banking index is one of how the performance of the banking system can be measured. Since the value of the payment system is for the whole nation, it suffices to use a measure that would

incorporate the whole banking system. To achieve the first hypothesis of determining the relationship between the banks' performance and Point of Sale (POS), the NSE Banking Index is regressed against the value of point of sale transactions for the period of the study.

The result indicated that there is no significant relationship between the banks' performance and the point of the sale payment platform. Although the result showed a positive relationship between the two variables, the positive relationship is not significant as the p-value is greater than the 5% level of significance which is the benchmark. The positive relationship means that when the payment platform increases, it leads to an increase in the bank' performance, but the increase is not statistically significant. To achieve the second hypothesis of ascertaining the relationship between the banks' performance and the automatic teller machine payment transactions, the NSE Banking Index is regressed against the value of the automatic teller machine transactions for the period under review. The result indicated that there is no significant relationship between the banks' performance and the automatic teller machine payment transactions. Although the result showed a positive result between the two variables, the positive relationship is not significant as the p-value is greater than the 5% level of significance. This result indicated that as the payment platform transactions increases, it led to an increase in the performance of the banks, but it is not statistically significant.

To achieve the third hypothesis of determining the relationship between the banks' performance and the NIBSS Instant payment transactions, the NSE Banking Index is regressed against the value of the NIBSS Instant payment platform transactions. The result indicated that there is no significant relationship between the banks' performance and the NIBSS Instant payment transactions. Although the result showed a positive relationship, the positive impact is not significant as the p-value is greater than the 5% significant level benchmark. The result signifies that as the payment platform increases, the banks' performance increases, but the increase is not statistically significant. The last theory of the relationship between the results of the banks and the NIBSS Electronic Funds Transfer is that the NSE Banking Index regresses against the transaction value of the NIBSS Electronic Funds Transfer.

The result confirmed that there is no significant relationship between the banks' performance and the NIBSS Electronic Funds Transfer transactions. Although the result indicated a positive relationship, the positive effect is not significant as the p-value is greater than the 5% level of

significance. This means as the NIBSS Payment platform increases, the banks' performance increases, but the increase is not statistically significant. All these results indicated the relationship of each of these variables when all the other variables are held constant. The overall regression result indicated the relationship of the four independent variables and the banks' performance when all interacted together with the dependent variable. The result indicated that although the relationship is positive, it is not significant statistically as the p-value of the overall F statistics is greater than the 5% level of significance.

The result of this study agrees with the outcome of the study by Chibueze, Maxwell & Osondu (2018) on Nigeria in which the payment channels did not contribute significantly to the performance of banks in the country. But it did not conform to Okello (2016) study in Kenya, Chimaobi (2018) and Mustapha studies on Nigeria banks, Jegede (2013) study on Nigeria, Rauf, Qiana & Sagid (2014) study in Vietnam, Ngango, Mbabazize & Shukla (2015) in Rwanda, David & Kaulihowa (2018) in Namibia and Odhiambo (2013) study in Kenya where there the e-channels payment platform has contributed significantly to the bank's performances in these countries.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

The overview of the results is provided in this chapter. The policy consequences, findings and guidelines focused on the study's results are also illustrated.

5.1 Summary of the findings

The general objective of this analysis was to empirically analyze the effect of the payment system on the performance of banks in Nigeria using secondary annual time series data from 2012 to 2018 collected from the Statistical Bulletin (2018) of the Central Bank of Nigeria and the Nigerian Stock Exchange's monthly financial reports. The study employed the use of regression analysis to analyze the secondary data on each of the four objectives of the study. The results revealed that none of the selected payment channels has statistically significant impact and relationship on the NSE Banking Index which proxy for the bank's performance. Although some of these variables are correctly signed, for instance, the positive relationship between point of sale and bank performance, automatic teller machine and the other two channels of NIBSS Instant payment and NIBSS Electronic Funds Transfer with the banks' performance measure, their significance levels are not significant.

5.2 Conclusions

Having analyzed the results, it could be seen that between the periods of the study, the payment channels value of transactions did not impact the banks' performance proxy by NSE Banking Index in Nigeria. The results negate the assertions that these channels should have a significant impact on the banks' performance. It could be concluded that the significant performance indicators of the banks are mostly from other sources of the bank's functions presumably from their core functions of lending and foreign exchange. Although these channels assist the financial inclusion policy of the Central Bank of Nigeria.

5.3 Policy recommendations

From the findings which have emerged in this study, few policy implications can be deduced. First, the Central Bank of Bank of Nigeria, the institution that is saddled with monetary policy and payment regulator should further expand the payment channels and make their operations hitch-free to encourage the patronage of the large section of the citizenry which it is expected will contribute to the banks' performance in the future. Secondly, the government should enhance the infrastructure development of the nation so that most of the cost being spent by the banks on some of these infrastructures themselves will be reduced and thereby affecting their bottom line.

5.4 Areas for Further Research

The plethora of studies in this area largely considered the effect of the payment channels on either the bank's performance or on the economy, future research may look at the impact of the revenue derived from the e-channels on the pre-tax and post-tax profits of the bank compared with other revenue sources of the banks.

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Appendix

Appendix I: Data Used

YEAR	BKNGIND	NEFT	ATM	NIP	POS
2012	339.63	13,753,178,360,585.00	1,984,990,636,830.00	3,890,260,230,695.00	48,461,883,431.00
2013	447.84	14,367,950,496,617.00	2,830,533,105,570.00	10,848,734,178,263.00	161,212,840,665.00
2014	351.40	14,563,804,544,654.00	3,681,980,955,458.00	19,921,499,572,670.00	312,071,736,903.00
2015	268.49	13,087,085,484,769.00	3,971,651,486,420.00	25,540,842,563,780.00	448,512,548,727.00
2016	274.32	14,584,802,657,086.00	4,988,133,401,544.00	38,109,061,203,852.00	758,996,505,702.00
2017	475.44	14,946,463,879,672.40	6,437,592,402,748.64	56,165,666,312,858.10	1,409,813,091,608.35
2018	398.94	11,030,961,545,925.40	6,480,085,899,670.37	80,423,025,698,377.30	2,383,108,901,148.12

KEYS:

NEFT: NIBSS Electronic Fund Transfer

ATM: Automated Teller Machine

NIP: NIBSS Instant Payment

POS: Point of Sale.

BKNGIND: NSE Banking index