THE EFFECT OF PAYMENT SYSTEM ON THE ECONOMIC GROWTH OF NIGERIA

BY

NELSON, ANTHONY.

16020101003

BEING A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF ACCOUNTING AND FINANCE, COLLEGE OF HUMANITIES, MANAGEMENT AND SOCIAL SCIENCES, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF BACHELOR OF SCIENCES (B.Sc. HONS) IN ACCOUNTING, MOUNTAIN TOP UNIVERSITY, OGUN STATE, NIGERIA.

November 2020.

THE EFFECT OF PAYMENT SYSTEM ON THE ECONOMIC GROWTH OF NIGERIA

BY

NELSON, ANTHONY.

16020101003

BEING A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF ACCOUNTING AND FINANCE, COLLEGE OF HUMANITIES, MANAGEMENT AND SOCIAL SCIENCES, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF BACHELOR OF SCIENCES (B.Sc. HONS) IN ACCOUNTING, MOUNTAIN TOP UNIVERSITY, OGUN STATE, NIGERIA.

November 2020.

DECLARATION

I hereby declare that this project report written under the supervision of Dr Omokehinde Joshua is a product of my research work. Information and data obtained from various sources have been rightly acknowledged in the text and list of references provided. This research project report has not been previously presented anywhere for the award of any degree or certificate.

_____   _____

NELSON, ANTHONY.   Date.

CERTIFICATION

I certify that this work was carried out by Nelson Anthony at the Department of Accounting and Finance, Mountain Top University, Ogun State, Nigeria under my supervision.

_____

(Signature and Date)

Dr. J. O Omokehinde

Supervisor

_____

(Signature and Date)

Dr. J. O Omokehinde

Head of Department

DEDICATION

This project work is dedicated to the creator of heaven and earth, the Almighty God. And also, to my parents, Mr and Mrs Kenneth O. Anthony and Pastor and Mrs Victor Aboluwade.

ACKNOWLEDGEMENTS

ABSTRACT

This study assessed the effect of Payment System on the economic growth of Nigeria from 2014-2019. The Nigeria payment system has undergone a lot of institutional and regulatory reforms in a bid to place the economy of the country among the top positions in the world. Secondary data was used to in the course of this study as the study utilized the quarterly data of the GDP gotten from the CBN statistical bulletin as the proxy for economic growth while the value of transactions for Cheque, Automated Teller Machine, NIBSS Instant Payment (NIP) and Remita was used as a proxy for the payment system. The study adopted ex-post facto research design, in which time-series data of the payment platform used in the course of the study were gotten from the CBN statistical bulletin and annual reports. The payment platforms employed in the research were; Cheque, Automatic Payment System (ATM), NIBSS Instant Payment (NIP) and Remita payment platform. Analysis of the data was carried out with Regression and ANOVA table test using Statistical Package for Social Sciences (SPSS). Findings from the study revealed that there is a significant relationship between gross domestic product (GDP) and all the four selected payment system (Cheque, ATM, NIP and Remita) transaction value with a p-value of 0.000 respectively. Conclusively, the study posits the payment system has a positive effect on the economic growth of Nigeria. Thus, it was recommended that a nationwide rural enlightenment and awareness program on the use of the various payment system by oneself if the CBN wish to eradicate the patronage of the cash-based system. It is also recommended that there should an upgrade in the security pass required for online transactions to curtail the increase in fraudulent activities popularly known as "Yahoo – Yahoo".

Keywords: Economic Growth, Payment System, Gross Domestic Product, Cheque, Automatic Teller Machine, NIBSS Instant Payment (NIP), Remita.

TABLE OF CONTENTS

Contents

CHAPTER ONE
INTRODUCTION

1.1 Background of the study

Economic activities are not complete without settlement been reached by both parties involved, and this serves as value exchange for the thing the other party has to offer. The earliest form of settlement is the commonly known but obsolete trade by barter system of settlement. Since the beginning of man's civilization, various payment mechanisms have been used to obtain goods and services starting with the exchange by barter system (Nzotta, 2014). The use of physical cash as a settlement for debt or purchase came into existence to solve the issue of double coincidence and divisibility caused by barter trade. Barter trade, or trade by barter as it is commonly known, went obsolete on the invent of cash and coins as a payment medium.

Coins and cash came as a form of payment following the establishment of the British Bank for West Africa (BBWA) in 1894. With the establishment of the British Bank for West Africa (BBWA) in 1894, the British West African States, which is now known as West Africa countries, instituted a cash and coin payment system for settlement in economic activities. Economic activities, as you would like to know, range from all activities undertaken to guarantee the delivery of goods or services reaches the final consumer with a monetary value attached to donate to the financial growth of the individuals or parties involved and to the host region. The term 'economic' is used because these activities generate revenues both for the parties involved and the state.

If managed well, those activities generate revenue, thereby contributing immensely to the development and growth of the state's economy or region in which it is carried out. Right from time immemorial, these economic activities have been characterized by various payment systems, starting with the common trade by barter system, which ushered in cash and coins as a settlement instrument to address the problems of the parties, emerging as a consequence of patronizing the barter settlement system.

Since Nigeria's independence especially after the decline in the growth of the country's economy in 1982, there have been different government regulations, constitutional reforms, changes in economic policies and banking reforms, as well as different monetary policies are implemented by CBN to improve the growth of the country's economy by fostering an efficient and effective

payment system because according to Ajayi and Ojo, (2006), to encourage a payment system that is secure, reliable and affordable is among the basic prerequisites for the growth of the country's economy.

The payment system can be seen as a structure consisting of establishments, instruments, agreements, operational processes and communications technology structures, typically within the economic sector, currently used in the economic sector when making payment from the debtor to the creditor and for payment or discharge of financial obligations between economic units (Ojo, 1998). The utility of transaction money used in the economy and the risk associated with its use are calculated by its technological efficiency (Biago and Massimo,2001). Payment instruments take several forms, such as cash, checks, dividend warrants, traveller cheques, money orders, debit and credit cards, wire transfers, automatic house clearing transfers, smart card value cards, point-of-sale (POS) and automated teller machines (Ojo, 2010).

Here, the word "system" means that it substitutes cash by using electronic money pockets and other hardware relevant to ICT in its use. Cheques, drafts, and documentary credits, such as a letter of credits, are examples of the traditional payment system. There have been different forms of electronic payment schemes due to the advent of information communication technology, such as payment cards, online banking and e-commerce settlement platforms, etc. Payment systems are used in both domestic and foreign exchange settlements and provide substantial support from banking institutions. The rise of technological advancements brought about the conception of many payment systems where an exchange is carried out without physical cash.

The cash payment system had many negative consequences on the Nigerian economy, eroding its positive effects as many social vices have been attributed to its use. Moreover, the monetary policy committee posits that the cost of cash management is high, which leaves an impact on the nation's economy as Ejiofor, (2011) in his study stated that the committee's findings showed that N192 billion accounting for the cost of cash management will be saved if the cashless policy is enacted to enable other payment options. Unfortunately, approximately 65 per cent of the Nigerian economy's cash supply is assumed to be outside the banking system., thus significantly limiting the influence of the CBN's endeavours on market price and economic stabilization (CBN, 2011). In Nigeria, as batons of monetary policies were handed down from the CBN to the financial institutions in Nigeria to make the payment system efficient and effective, in this

similar mindset, the cashless payment systems were launched in 2012 in a bid to primarily to achieve the vision 2020 goals of the Nigerian government and to curb the vices associated with a cash-based economy.

The cashless policy was imposed by the CBN to promote economic growth and stability. The cashless policy birthed factually all the electronic payment systems operating in the country today with rapid growth in its usage. According to CBN's statistical bulletin in 2018, the volume and value of electronic card transactions increased significantly over the years. The ATM transactions value rose from N548.9 billion in 2009 to N3,679.88 billion in 2014, while point of sale transaction values likewise rose from N11.03 billion in 2009 to N312.07 billion in 2014. The mobile banking platform increased from N1.27 billion in 2009 to N346.47 billion in 2014. Despite all these statistics, it has not been translated into the country's economic growth and stability as expected.

Recent theories posit that progress in the banking sector (E-banking) can encourage economic growth through a channel which is an effective payment method that increases the banking sector's performance and efficiency. Increased use of electronic card added $983 billion in real US dollars to the GDP of 56 countries surveyed from 2008 to 2012, according to Moody's Analytics released by Visa Inc., card payment has increased consumption by an average of 0.7 per cent across the 56 countries, but over that time the real GDP globally expanded by an average of 1.8 per cent (Zandi *et al*, 2013). Therefore, with the above statistical facts, it can be said that one must not overlook the impact of an effective and efficient payment system on a country's economic growth.

1.2 Statement of the problem

The objectives of any monetary or fiscal policy are to improve the populace's payment system and purchasing power.

Before the CBN adopted the cashless policy in 2012, Nigeria's financial institutions and intermediaries were bedded with lots of challenges, associated with pathetic physical cash management, high flow of physical cash in economic transactions that translated into high banking operating costs, leakages, money laundering and other financial related offences due to high cash use within our various economic sector.

The cashless policy as an economic management technique is to bring about sustainable growth to the country 's economy and development as well as. As mentioned above, the initiation of the cashless policy by CBN in 2012, which gave birth to a large part of the payment mechanism (electronic payment systems) operating in the economy today, was objectively introduced to accelerate the growth and transformation of our payment platform per the goals of Nigeria's year 2020 vision of becoming the top twenty (20) economy by year 2020, and to reduce the cost of banking services, and also by offering more productive transaction options and greater scope by enhancing the monetary policy efficiency in controlling inflation and boost economic growth, to drive financial inclusion.

Aside from the physical difficulties, financial information and pointers are not completely accessible and solid. Therefore, there is a great challenge in analyzing the true impact of the payment system on Nigeria's economy as only a few monetary and macro-economic pointers can be followed with connection to the topic. Many scholars have tried to assess the effect of the payment system in its context, such studies by these scholars have shown that the electronic payment platforms are increasingly attaining acceptance from users and non-cash transactions has increased steadily as well in recent years, despite several difficulties found with the e-payment system usage (Nkwanko *et al*, 2013). However, it is becoming clear that few studies have only presented a comprehensive evaluation and analysis of the payment system effect on the growth of the country using the GDP, a macro-economic variable as its dependent variable.

Therefore, this study will examine the effect of the payment system on the economic growth of Nigeria using the macroeconomic variable, GDP.

1.3 Objectives of the study

This study's main objective is to analyze the effect of the payment systems on the economic growth of Nigeria, but for this study the main objective will be broken into the following specific objectives;

1. To determine the effect of the value of transactions by cheque payment on the GDP.
2. To evaluate the effect of the value of transactions by Automated Teller Machine (ATM) payment on the GDP.
3. To assess the effect of the value of transactions by NIBSS Instant Payment (NIP) platform on the GDP.

4. To ascertain the effect of the value of transactions by Remita payment on the GDP.

1.4 Research questions

1. What effect does the value of transactions by cheque payment have on GDP?
2. To what extent does the value of transactions by ATM payment affect GDP?
3. What is the effect of the value of transactions by NIBSS Instant Payment (NIP) on GDP?
4. Does the value of transactions by Remita payment affect the GDP?

1.5 Research hypotheses

The following hypotheses are formulated tentatively and to be tested during this study.

1. Ho: the value of transactions by cheque payment has no significant effect on the GDP.
2. Ho: the value of transactions by ATM payment has no significant effect on the GDP.
3. Ho: the value of transactions by NIBSS Instant Payment (NIP) Platform has no significant effect on the GDP.
4. Ho: the value of transactions by Remita payment has no significant effect on the GDP.

1.6 Scope of the study

In pursuance of this study; attention will be focused on some selected payment systems (cheque, ATM, NIP, & Remita) effect on the economic growth (GDP) of Nigeria. Basically, for this study, secondary data was applied in carrying out this study using quarterly data obtained mainly from the CBN statistical bulletin from 2014 to 2019. Thus, the scope of the study covers six (6) years.

1.7 Significance of the study

- This research gives a more profound comprehension of the economic growth and payment system relationship in Nigeria.
- This research findings provide a quantitative policy framework for enhancing the growth and development of Nigeria's economy through its payment system's efficiency.
- Knowledge of this study will help policymakers develop a necessary and adequate monetary policy that will enhance the payment systems' performance.

1.8 Operational definition of terms

GDP: The GDP is the market value of all products and services created during a given time in the country. A country's economic screenshot can also be called the GDP. It gives a nation's financial preview, used to assess the size of an economy and its development rate.

ATM: This acronym stands for Automated Teller Machine. ATM is a computerized electronic platform that the customers of financial institutions use to engage in financial transactions outside the bank premises without asking for a bank personnel. Recently, its functions exceed the mere dispensation of cash, which was its initial creation function.

Cheque: A cheque is a document used in a settlement in debt or financial obligations by ordering a money deposit institution to give the holder or bearer of a cheque slip a certain amount of money. The cheque account owner is known as the drawer; he is the one that issues a cheque payable to the second party known as the payee, whose name will be written down on the cheque slip with other necessary information. The drawee is known to be the bank making the payment or where the cheque is submitted for payment. In most cases, a chequebook is only distributed or issued to the current account holder.

Remita: Remita is an electronic or online settlement framework that allows the settlement of financial obligations to be reached by individuals or parties involved from anywhere in the country through their banks.

NIBSS Payment Platform: It began operating in June 1994 with modern world-class inter-bank payment handling infrastructures to eliminate possible restrictions associated with the transfer and settlement system of inter-bank funds. The Automated Clearing System of Nigeria (NACS) is also operated by NIBSS, facilitating the clearing of cheques electronically and other paper-based instruments, the transfer of electronic funds, automated direct credits and debits.
The following payment platforms made up the NIBSS payment platform;

- **NAPS** is the integrated multi-bank e-payment, e-collection and payroll and bulk payment network. NAPS stand for NIBSS Automated Payment Systems (NAPS). It is intended for the immediate payroll treatment, pension, workers record and transfer of money, direct debit, collections, plan distribution and payment instruction execution.
- **NEFT**: National Electronic Funds Transfer (NEFT) is a payment mechanism nationwide that accelerates the transfer of one-to-one funds. Under this platform, individuals can

transfer money electronically from the bank branch of any party to any other party that has an account with another bank branch in that same country.

- **NIP**: NIBSS Instant Payments (NIP) is an online-real-time Inter-Bank payment solution based on account-numbers, developed by NIBSS in 2011. The Nigerian financial industry's preferred fund transfer network that guarantees instant value to the receiver. And for the course of the study, NIP was selected.

Payment system: A payment system is any framework or system used to settle financial obligations in economic activities by exchanging worth of financial equivalent in value or measure. This system incorporates institutions, instruments, individuals, rules, technology and procedures that make its trade conceivable.

Economic growth: Economic growth refers to the rise in the market value for products manufactured in the economy over time. The percentage rate of increase in actual gross domestic product, or real GDP, is conventionally measured.

For easiness in the presentation of this research work, the order is as follows; immediately after chapter 1 is section 2 literature review, which includes the conceptual review consisting of the evolution of the payment system in Nigeria and the concepts of payments and empirical reviews. Then, Sections 3 is about the methodology adopted for this study. Data analyses and interpretation of results are in section 4, while section 5 is the conclusion and recommendations.

CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction

This chapter reviews existing works of literature discussed the conceptual review of this study, which includes the evolution of the payment system in Nigeria, the concept of the payment system, the structure of Nigeria payment system, few policies that have significantly affected the payment system over the years in Nigeria, bodies/institutions regulating the payment system service, and its major problems of Nigeria payment system. It also explained the relevant theoretical framework, including the theory of reason, technology acceptance model theory, and innovation theory diffusion. This study also reviews the empirical analysis of different researchers.

2.1 Conceptual review

The conceptual review includes the payment system's concept, the structure of Nigeria payment system, and few policies that have significantly affected the payment system over the years in Nigeria, its regulators and the challenges faced by the payment systems in Nigeria.

2.1.1 Concept of the Payment System

The importance of a reliable and effective payment platform cannot be undermined in any modern society. In this present dispensation, various countries have developed or are developing multilateral payment systems in response to the sophistication in economic activities and the market's growing need. And this brought about an increase in economic operators' engagement in settlement of financial transactions through other means or platform other than the conventional cash system of settlement, no matter where such transactions are made. According to the Ogbonna and Virtus (2020) research, the emergence of electronic banking, online payments and mobile banking in Nigeria has paved the way for a new era of growth in which physical cash usage and demand are steadily decreasing.

For the payment system to function effectively, the financial system (banking sector) must be properly developed and made efficient. Cash flow, compensation, systemic credit and operating risks inherent in business transactions are minimized by an efficient and effective payment mechanism. Central banks worldwide take a prominent role in developing appropriate payment policies and instruments for monetary policy to be effective. While cash and paychecks are still

prominent in some parts of the globe, due to the high penetration of mobile phone technology, electronic payment mechanisms such as mobile payments are gaining users' acceptance in many economies (Herzberg, 2003). Effectively adapting to current and potential payment needs of economic units by using the latest technical technologies decreases costs and improves the pace of fund and securities settlements, and the value and volume of transactions is a very important thing to be put into consideration when formulating policies and framework in respect to settlement or payment system.

The word payment system to a layman means sending or paying in cash to a seller of goods or services. The payment system definition is not far-fetched from the above definition. According to CBN, a physical and organizational framework in the payment system allows monetary value to be exchanged between parties that discharge their shared obligations. In other words, the payment system refers to a mechanism of the financial system that enables the money transfer from suppliers/savers to users/borrowers and from payers to payees, generally through the exchange of debits and loans between financial institutions. It consists of a paper-based pay order and draft management system and a paperless electronic commerce transaction management mechanism (such as exchanging electronic funds).

The main objective of any payment framework is to guarantee that the financial sector works without interruption to carry out transactions with minimal delay, risk and expense to the economy and parties involved. Similarly, the expense of exchanging goods and services is minimized by an effective payment mechanism and is indispensable for the functioning of the inter-bank, monetary and capital markets. It also emphasizes the maximum utilization of resources and enhances monetary policy implementation to actualize the stability of price. Also, it is a medium for settlement of all types of transactions. An efficient payment system must be safe, reliable, accessible, prompt and cost-effective. Its technological effectiveness will assess the degree to which, in any economy, monetary transactions are carried out and the problems related to their use. In essence, a poor payment mechanism can severely drag any economy's stability and capacity to expand, while its failures can lead to inefficient financial capital use.

2.1.1.1 Type of Payments System and Instruments

Different payment systems are available through various channels and can be categorized into two. Namely; retail or small value and large value or wholesale payment system.

Retail or Small Payments System

The retail payments system involves cash, cheques, draft, cards and Automated Teller Machine (ATM), Automated Clearing House (ACH), bulk payments, etc. Retail processes are relatively small payments among consumers and businesses and are used primarily by the non-bank public to make and receive payments.

They can be categorized into four retail payment instruments: currency or cash; paper-based instruments, paperless or electronic instruments; and other instruments.

i. **Currency or Cash:** This instrument takes the form of banknotes and coins and is the most popular method for small payments in Nigeria because it has no credit risk.

ii. **Paper-based Instruments:** That include paychecks for travellers, bank drafts, and cheques. Despite the obvious benefit of these instruments over cash, their use is still very limited in Nigeria. It is attributed to the low level of confidence and acceptability of business transaction settlement instruments, the peasantry's predominance in the real sector, and informality in the commercial sub-sector of trade.

iii. **Paperless or electronic devices:** Paperless or electronic devices are networks of technology such as automated teller machines (ATMs), automated clearing houses (ACHs), point-of-sale terminals (POS), internet payments, mobile telephones, and wire transfers.

iv. **Other instruments of payment:** Other paper-based resources include postal orders, money orders, coupons and pre-paid cards. These instruments have reduced over time due to weak postal systems, preferential use of banking services, especially bank drafts or certified cheques, and increased use of banking services through electronic payment instruments in the country.

Inter-bank Large-Value Payments (LVP) or Wholesale Payments System

This system typically processes critical high-value payments. LVP is primarily used for corporate financial transactions. It allows transfers within the country to be made electronically, and transactions are resolved in real-time. Its speed, reliability, protection, comfort, cost-effectiveness and accuracy are other benefits of the platform. However, if this mechanism fails, it may cause instability and transmit shocks to the financial markets, the domestic economy, and

across borders. The LVP system is privately run by the Nigeria Interbank Settlement System (NIBSS) Plc. Large value fund, payment system services can be classified as follows;

i. **Real-Time Gross Settlement System (RTGS)**: RTGS systems are large-scale transfer services of funds that run continuously throughout the business day to provide irrevocable payment liability settlement via the Central Bank. The most significant aspect of the RTGS method is that it provides the finality of the instant settlement as soon as payment instructions are issued, provided that the settlement account of the approving bank has ample funds available. Settlement here applies to the transfer of funds within the RTGS scheme from the sending bank to the receiving bank. Finality refers to an unconditional and irrevocable arrangement. Moreover, real-time ensures that payment orders are executed as they reach the system, while gross settlement ensures that the cumulative gross sum of the fund is transferred with each payment instruction. On December 18, 2006, to enhance the effectiveness of payments, the CBN began operations of the RTGS system and was called the 'CBN Inter-bank Transfer System of Funds (CIFT).' The system integrates with the bank's core banking program (the T24 System) and directly participates in all DMBs and discount houses. The system allows participants to perform electronically several transactions from their offices, using the Terminal Access Device. Inter-bank transfer, third party fund transfer (transfer on behalf of Bank A's client to Bank B's client's account), account balance inquiries, queue management, report generation and reconciliation are noteworthy among the transactions be effected. The bank explained that one of the e-payment options available to any customer exceeding N10 million stipulated limits is a real-time gross settlement (RTGS). This is an automated online payment system, which allows the transfer of funds from one bank account to accounts in another bank on the same day (Nweze, 2010:23) The RTGS offers several other benefits, including reducing systemic risk, eliminating settlement risks due to the irrevocability of payment messages, and enhanced efficiency of the monetary policy implementation process. The mechanism is also capable of providing Securities Settlement Delivery Versus Payments (DVP) and Foreign Exchange Settlement Payments Versus Payments (PVP) to minimize risk. Currently, all the DMBs in the country, non-interest banks (JAIZ bank) and discount houses hashtag to make large value payments.

ii. **Society for Worldwide Interbank Financial Telecommunication (SWIFT):** It is designed for international payments using the messaging system. It facilitates international trade, e.g., Letters of Credit, and its transfers are characterized by high transaction costs denominated in US dollars because the network is not domiciled in Nigeria.

2.1.1.2 The Structure of the Nigeria Payments System

2.1.1.2.1 Cash

The cash comprising of notes and coins is the centre of the payment system in Nigeria and is highly susceptible to losses, theft, accidents, counterfeiting, etc. Formerly consisting mostly of smaller denominations of 50k, N1, N2, N5 coins and N10, N20, N50 notes, the currency structure has been restructured to include higher denominations of coins and N10, N20, N50, N100, N200, N500 and N1000 notes with some denomination going extinct. Consequently, banks have to recruit more cashiers, install huge cash vaults, buy bullion vans, cash sorting machines, etc. It results in higher costs of intermediation in no small way to meet their customers' and other clientele's cash requirements. However, the cash payments system in Nigeria coexists with a non-cash payments scheme. Notwithstanding, in Nigeria, regrettably cash remains the preferred payment instrument as opposed to cashless -based payment instruments.

2.1.1.2.2 Non – Cash Payments System

The Bankers Clearing House (Inter-bank Clearing) System, Inter-bank Settlement System, Securities Clearing System and other electronic payment systems are included in the non-cash payments system.

2.1.1.2.2.1 Inter-Bank Clearing System (Bankers Clearing House System)

The CBN established the first clearinghouse in May 1961 to facilitate cheques clearing and to promote effective payments. After that, as Central Bank branches were opened in state capitals, clearinghouses were also opened in such branches. Twenty-one clearinghouses were active in the State Capitals and the Federal Capital Territory of Abuja at the end of December 2012. The bank also introduced the Magnetic Ink Character Recognition (MICR) program in 1991 towards modernizing the processing of cheques and other instruments. The CBN as superintendent and

DMBs (clearing) as operators make up the representatives of Nigeria's cheque clearing system. The clearers (DMBs) deal in a dual capacity, first on their behalf and secondly, as agents to other DMBs that do not have direct access to clearing house facilities.

2.1.1.2.2.2 The Nigeria Inter-Bank Settlement System (NIBSS)

To enhance the payment system, the Bankers' Committee established the Nigeria Inter-bank Settlement System (NIBSS) in 1993 commenced operations in 1994, as a non-profit intermediary between banks. It complements the Central Bank's clearing and settlement procedures to eliminate payment bottlenecks and delays in settlement and include clearing and settlement of high-value inter-bank transactions on the same day. It is a fully computerized system delivering real-time services to the banking system. Soon, NIBSS will commence the Tier One (T+1) settlement cycle for cheques and the scheme for Point of Sales (POS) terminals. The NIBSS, completely subscribed by the DMBs, has an approved share capital of ten million. The CBN though not an equity participant but has a voting right and chairs the NIBSS as the apex financial sector regulatory institution.

2.1.1.2.2.3 The Nigeria Automated Clearing System (NACS)

On October 21, 2002, the CBN unveiled the Nigerian Automated Clearing System (NACS) in partnership with the Bankers Committee. It was in reaction to the difficulties associated with implementing the MICR, especially the delays in the clearing system. Using a combination of MICR and imaging technologies, NACS allows the automated clearing and processing of cheques online. Through reader/sorter devices and state-of-the-art computer technology, cheques are collected and processed at high speed under the scheme. The NACS provides the anchor for the electronic payments system in Nigeria. After the implementation of NACS, the clearing periods for local and national instruments have been harmonized after 2008 at T 2 (3 working days). Furthermore, the Cheque Truncating and Conversion System (CTCS) was introduced. The objective is to introduce a method of paperless cheque clearing, achieve a national common day hold, and improve the clearing and settlement method's effectiveness. In Cheque Truncating and Conversion System (CTCS), the cheques' clearing is based on the image and Magnetic Ink Character Recognition (MICR) Codeline data of the cheque. The cheque's image and data, such as the MICR sector, date of presentation, bank presentation, etc., will be transmitted

electronically instead of the actual cheque during the clearing process. Thus, the physical cheque from the collecting bank to the clearinghouses and the paying bank would not need to be transferred. The time taken to clear cheques would be reduced.

2.1.1.2.2.4 The New Settlement Framework

This new settlement system framework was implemented by the CBN in April 2004 to boost productivity and reduce settlement delays for high-value and time-sensitive payments and to further mitigate risks. Under this framework, a new settlement classification was introduced, segmented banks into the settlement and non-settlement banks. While settlement banks maintain settlement accounts with the CBN, the non-settlement banks maintain an operational account for limited transactions in the CBN, basically foreign exchange and inter-bank fund transfer. Under the new agreement, non-settlement banks needed to clear their cheques via settlement banks. It also involves an upward review of required clearing collateral to N15 billion for each bank who aspires to be a settlement bank. Consequently, seven clearing banks that met the requirements for maintaining a clearing account were appointed and designated "settlement Banks" in 2004. The number of settlement banks rose further to 12 in 2006. The provisions under this new framework have made it possible for non-settlement banks to retain settlement bank agency provisions. The new arrangements for clearance and settlement have reduced the various risk elements associated with the earlier arrangement. The distressing issue and moral hazards commonly associated with banks' overdrawn positions resulting from cheque clearing have been removed, and some measure of control has been imposed on banks by the self-regulatory design of the system.

2.1.1.2.2.5 The Nigeria Securities Clearing System (NSCS) and the Central Securities Clearing System (CSCS).

This mechanism focuses on the movement of shares, including debt service and money market instruments, with the NSE serving as the supervisor of trading operations. NSE brokers, banks and institutional investors (pension funds and insurance companies) are the major players in these markets. Securities transfers are made by cheques, draft transfers or inter-bank or electronic payments the same day. With the NSE's internationalization, a Central Securities Clearing System (CSCS) evolved in 1997 to clear and settle all listed securities, including FG development stocks, industrial loan stocks, preferred stocks and equities. The CSCS is an online

automated securities trading system, which facilitates the electronic settlement of deals between stockbrokers and customers through the in-house clearing system and the NSE central computer via a communication network. Thus, a securities settlement system is the mechanism by which the purchase of a security is paid for, and by which title is transferred from the seller to the buyer; therefore, the process by which the acquisition of security is paid for and by which title is transferred from the seller to the buyer is a securities settlement scheme.

2.1.1.2.2.6 The Nigeria Electronic Payments System

These are non-paper computer-based payment tools for electronic payment systems. The electronic payment system allows for the existence of electronic money (e-money) that can be represented as a product with a stored value in which a record of the funds or the value provided to customers for multipurpose use is stored on an electronic device owned by the customer. E-payments are defined by Humphrey et al (1996) as payments that are electronically initiated, processed and received. They went on to argue that it can be defined as the use on the internet or other electronic device of pre-coded, debit and credit cards to conduct regular or routine transactions that involve paying at any time of the day for goods and services, transfer and bill payment. It is described by Raja (2008) as any payment system service using information and communication technologies, including integrated circuit (IC) cards, cryptography and telecommunications. The electronic payment system is suitable for electronic channels such as automated teller machines (ATM), point-of-sale (POS) terminals, internet payment, plastic money (e.g., e-purse, debit and credit cards), mobile payment and wire transfers, etc. In Nigeria, debit cards are the dominant card mechanism, often referred to as ATM cards. Given the currently restricted deployment of POS terminals, ATM use exceeds POS transactions as of two years ago statistically. The Automated Clearing Houses (ACH), Nigeria Electronic Fund Transfer (NEFT), NIBSS Quick Funds, RTGS, and SWIFT are other transfers of electronic funds (EFT) in the region. Their broader adoption and use in Nigeria may make a major contribution to improving the payments system. Banks are increasingly deploying electronic money instruments to aid service delivery, given their significant cost-effectiveness and operational efficiencies in the payments system.

The Nigeria payment system consists of the following,

a) **Electronic Cards:** Electronic cards are physical plastic cards that uniquely identify the holder and carries a monetary value that could be used as a means of settling financial commitments. Three specific types of electronic cards are available: e-purse, debit cards and credit cards.

    i. **E-Purse**: Also called an electronic wallet. An E-purse has a preloaded real value and can be used as a payment system for various transactions of small value., E-Purse (e.g., Value Card and Smart Pay).

    ii. **Credit Cards:** A credit card indicates that the card issuers have given the holder a credit line. Credit cards are used to facilitate transactions without money or cash being transferred in physical form. It enables the holder to make purchases and withdraw the cash up to the pre-arranged credit limit. The Credit shall be resolved in full or in part within a defined time.

    iii. **Debit Cards:** Debit cards allow holders to directly charge funds in their accounts for transactions and withdrawals. Examples of major debit cards include VISA, Eurocard, MasterCard, and American Express. In Nigeria, banks' ATM card on the Inter-Switch network is the only example of a debit card.

b) **Internet Banking:** Internet banking requires the conduct of banking activities such as account inquiries, account statement printing, transfer of money, payments for goods and services, etc. without entering the banking space, it uses technological resources such as a computer on the internet. Internet banking greatly promotes e-commerce and is used primarily to make payments. Internet banking also employs the electronic card platform for the execution of payment instructions and the final settlement between the merchant and the customer of goods and services. The most popular Internet banking is for payment of bills, transfer of funds and purchasing of air tickets via merchant websites.

c) **Telephone Banking:** these are banking facilities that can be accessed by a client of a financial institution using a telephone line as a connection to the data centre of the financial institution. Services rendered through telephone banking include account balance, fund transfer, change of pin and bills payment even using USSD codes of the bank.

d) **Mobile Banking:** Mobile banking includes the settlement of financial transactions by using a mobile phone. It facilitates person-to-person transfers to the receiver with immediate availability of funds. Do mobile payments use card infrastructure for funds transfer and secure SMS messaging for confirmation of receipts (to beneficiaries) and payments (to account holders who have given payment instructions) of funds? It is used for low-value transactions where the speed of completing the transaction is important. The services covered under this product include account inquiry, fund transfer, recharging phones, changing passwords, and bills payments offered by a few institutions.

2.1.1.3 Cheque

Cheque refers to a negotiable instrument containing an unconditional order to the bank to pay, from the drawer's account, to the person to whom it is given, or to the order of the stated person or bearer, a certain amount referred to in the instrument.

The method of cheque clearing is how bank exchange cheques are drawn from each other via a clearing system. In the other hand, the clearing mechanism is how the proceeds of cheques and other payment instruments are passed from the paying bank to the receiving bank.

As a result of the time feature that affects the clearing system, i.e. before the cheque is cleared, the Nigerian Automated Clearing System (NACS) booked off on October 21, 2002. This included a great deal of stretch in which the cheque is not cleared when necessary.

Act No 24 of 1991 of the Central Bank of Nigeria (CBN) authorizes the Apex Bank to encourage the clearing of cheques and other payment instruments. On January 2, 1995, the Nigerian banker's clearinghouse rule was released as a move forward on the execution of the mandate (CBN). In November 1995 (CBN) governor announced a proposal for a dratie overall of the monetary transaction clearing system in Nigeria was largely focused on cash and as such had inherent problems, such as the safety volume of its transport document, shifting currency sorting.

With so many banks involved in clearing, the clearing process has been quite rowdy. The system was always late in balancing the book and vulnerable to human worms. This made it very difficult for the Central Bank of Nigeria (CBN) to measure the net settlement figures and notify them on time after the clearing days. While many of the tools had magnetic character recognition

(MICR) code, the lack of automation meant that there was little use of MIC code lines and infrastructure.

This meant a waste of considerable investment made in the form of magnetic link character recognition (MIRC) code line information processing infrastructure to finance solution to the problems set up by a committee. On June 16, 1996, its report formed the basis of the banker's committee decision approving the automated clearing process for more areas within the country with Lagos having morning Non-cash instrument uses often decrease the number of clearing banks to make the clearing bank process number more manageable, it was quicker to reason that automated systems would be possible to use [MICR] systems, which would further introduce speed and efficiency into clearing processing with the potential to minimize the clearing float that establishes networking between the parties.

"This state of affair creates the moving public member to non-cash payment instruments were hindered by the clearing procedures, which were mainly manual, the customer services were prior and transaction-based checks were vulnerable to fraud," the clearing circle looks between 5 and 15 working days.

On February 16, 2019, 360 years have passed since the cheque book was released worldwide as a financial instrument. Sadly, with each passing day, its use is gradually but steadily decreasing.

2.1.1.4 Automated Teller Machine (ATM)

An automated teller machine (ATM) is an outlet for electronic banking that enables customers to complete simple transactions without the assistance of a bank clerk. At most ATMs, anybody in possession of a debit card will have access to cash.

Historically, through the help of National Cash Registers (NCR), the defunct Societe Generale Bank launched a mechanical cash dispenser, potentially an ATM, in Nigeria in 1986. Interswitch introduced ATM into the Nigerian market in 23rd of October, 2003. In Nigeria, ATM services can be said to have an existence for more than fifteen years. At first, they ran as elitist services tailored for the ones ready for exclusive service. Cards were uncommon, and the procedure for acquiring them tortuously as of before. At present, the usage of the ATM cards has been heavily marketed; today, all banks run and own an ATM in different locations of the country, unlike the situation in 2004 whereby only fourteen can boast of an ATM. Ogbuji, C. N. *et al* (2012), have

been noted that the Automated Teller Machines (ATMs) as one of the latest replacements of the cascading labour-intensive transaction mechanism by what is generally referred to as paper-based payment tools. For many decades, Nigeria has not purchased goods on credit or with credit cards as a large consumer population. Operating solely with cash was the practice, but today the tide has shifted as many banks now provide their clients with credit and debit cards.

The total number of Automated Teller Machines (ATMs) in Nigeria as of September 2018 is 18,321, according to data from the Nigerian Inter-bank Settle System (NIBSS). While the total number of transactions performed is 650.06 million, the transaction value is N4.76 trillion. As of September 2017, the total number of ATMs across the nation was 17,051, while the total number of transactions conducted was 560.86 million, and the transaction value was N4.61 trillion. This means that 1,270 ATMs were added compared to the existing number of ATMs in 2018, raising the number of transactions carried out by 89.20 million and the volume of transactions by N15 billion. These showed the high acceptance of this medium of payment by Nigerians despite the charge placed on its patronage.

Over time, the ATM has helped create the convenience society for those who patronize the banking sectors with 24/7 access to safe banking services outside the banking premises. To minimize the crowd in the banking hall and also create excellent confidence in the minds of customers, bank's customers have to carry out and settle any transaction through a virtual banking system. There is a common awareness that the strategic building of e-banking infrastructures can only meet this challenge (Imiefoh, 2012). Recently, with the touch of a few buttons, they can withdraw cash, make deposits, pay bills, do balance inquiries, buy tickets, top-up cell phone air time, send remittances and transfer funds. Outside banking hours, retail transactions using cash from ATMs or credit cards have forced the lengthening of shopping hours beyond previous boundaries, offering higher revenues and greater convenience for highly mobile people today. The ATM is the most widely used payment system nationwide.

2.1.1.5 REMITA

Remita is a payment platform was developed and launched in 2005 by System Specs Limited in Lagos for e-payments and e-collections. Remita, a licensed platform of the CBN, established in Nigeria and assists in receiving and making payments for organizations and individuals. The program, which is now the company's flagship product, is used by the Central Bank of Nigeria for payment and collection of funds on behalf of the Federal Government of Nigeria for the Treasury Single Account (TSA). It is also used by 22 commercial banks and also by almost all the micro-finance banks in Nigeria. Through the use Treasury Single Account (TSA), the Nigerian government was reported to have saved "trillions of naira typically lost to corruption due to the opaque nature of government accounting, 5.24 trillion naira was realized as inflows into the TSA account.

Remita is very popular recently in the FinTech industry. Within its shortest time of introduction into the payment industry, the platform or the app has had a positive impact on the economy of the country and is giving us much global attention as a cutting-edge indigenous financial technology. Global researcher McKinsey noted in its September 2016, that digital payment platforms such as Remita are essential to the growth of modern economies and enable individuals, companies and governments to perform cheaper and more effective financial transactions. These platforms are projected to increase emerging economies' gross domestic product (GDP) by a whopping $3.7 trillion by 2025 and encourage social inclusion by 2025.

Remita is over five years old as the payment platform introduced by the Federal Government for its Treasury Single Account (TSA) system but is still living up to the predictions of McKinsey. So far, it has had a big impact on public finance in Nigeria by helping the government recover N4.3 trillion of its cash reserves lying idle in Deposit Money Banks (DMBs).

The Remita is a payment portal for funds created from levies, taxes and tariffs for Federal government funds. Remita is a solution authorized by CBN that tackles the payment needs of Persons and groups. Built by FinTech giant System Specs, with ZERO activation fee as a plus, it allows the public to easily receive and make payments. Remita currently supports over 1,000 retailers, multinationals, small and medium-sized businesses and governments at different levels.

2.1.2 Nigeria payment system relevant providers and processors

In Nigeria, the provision and processing of payment services are restricted to certain institutions, and they are;

- 24 Deposit Money Banks

Card Scheme Operators:

- The Nigeria Inter-Bank Settlement System (NIBSS)
- The Nigeria Securities Clearing System (NSCS) and the Central Securities Clearing System (CSCS).

2.1.2.1 The Nigeria Inter-Bank Settlement System (NIBSS)

Created in 1993, Nigeria Inter-Bank Settlement System (NIBSS) Plc is owned by jointly all approved banks and the Nigerian Central Bank (CBN). It commenced operations in June 1994. NIBSS has placed in place modern world-class interbank payment management infrastructures to eradicate possible bottlenecks associated with the movement of interbank funds and settlements. The company also controls the Nigerian Automated Clearing System (NACS), which facilitates the electronic clearing of checks and other paper instruments, the transfer of electronic funds and the automated direct credit transfer of credits.

Objectives of NIBSS:

- To function as a service-oriented institution that provides an inter-bank transaction and payment clearing and settlement network on the same day.
- Provision of automatic processing and transfer systems for bank transactions.
- To provide the basis for increasing the degree of competitiveness in the general transfer of funds, while at the same time reducing the costs associated with uncertainties in the receipt of value.
- Payment and problems with the management and timely reconciliation of successful treasury operations
- Initiate and create an integrated national network for, among others, electronic or paperless transfer of funds and payments of transactions.

Composition of NIBSS

The NIBSS Board consists of the Deputy Governor (Operations) as Chairman of the Central Bank of Nigeria, members of the Banks as Administrators, Executive Directors and the Managing Director / CEO, who leads the organization's Executive Management Division.

NIBSS MODE OF OPERATION

To provide world-class payment/settlement services, NIBSS operations provide the best information, communication and technology infrastructure for automated online operations and effective information and data transmission security practices. NIBSS practices adequately reduce operational and credit risks in the flow of funds through financial institutions.

2.1.3 Regulator of Nigeria Payment System

To discourage unhealthy competition and poor-quality services, a regulatory body was put in charge of its operations in Nigeria. The sole regulator of Nigeria's payment system is the Central Bank of Nigeria (CBN).

2.1.3.1 Central Bank of Nigeria (CBN)

The mandate of the Central Bank of Nigeria (CBN) derives from the 1958 Parliament Act, as amended in 1991, 1993, 1997, 1998, 1999 and 2007. The Federal Republic of Nigeria's 2007 CBN Act charges the CBN with overall oversight and management of the Federal Republic of Nigeria's monetary and financial sector policies.

Objectives and function of the Central Bank of Nigeria are;

1. To ensure monetary and price stability;
2. Issue legal tender currency in Nigeria;
3. To conserve the international value of the legal tender currency, preserve external reserves;
4. Promote a sound financial system in Nigeria; and
5. Act as bankers and provide economic and financial advice to the Federal Government.

The bank is therefore responsible for enforcing, as amended, the Banks and Other Financial Institutions (BOFI) Act (1991) with the primary objective of maintaining high standards of banking practice and financial stability through its oversight activities and supporting an efficient payment system.

Over the years, CBN has carried out numerous major developmental functions in addition to the basic roles, focusing on all the main sectors of the Nigerian economy (finance, agriculture, and industry). In general, through its different divisions, the bank carries out those mandates.

2.1.4 Role of Payment System in an Economy

In any economy, the payment system plays an important role as it remains the key medium for the flow of inter-sectoral, inter-industrial, inter-company and interpersonal financial capital, thus facilitating economic development. Thus, it is the big pillar of the new market economy. Essentially, the payment system has four essential functions, name:

i. **Financial Intermediation**

The Deposit Money Banks (DMBs) provides financial intermediaries services by making funds available to all economic agents. By shifting monetary value from the payer/depositor to the payee/receiver of the fund engaged in economic transactions, the payment system enables intermediation. Thus, the mechanism is the medium by which cash flow and debt in the financial sector are passed from one participant to another.

ii. **Facilitates Settlement of Transactions**

The payments system helps to accelerate the exchange and settlement of funds and securities. The payment system can be categorized into two settlement techniques: The Real-Time Gross Settlement System (RTGS) and the Deferred Settlement System (Netting) RTGS is held for high-value payments by central banks and does not bear any credit risk as real-time payments are settled. It is a system that enables banks to settle payments immediately and in full; however, liquidity issues could occur in the system, which may require a credit extension. Using a deferred settlement scheme, such as netting, is one way to reduce such a scheme's liquidity needs. Payment orders are delayed in the netting system until some specified time when banks share net sums that they owe or are owed. In other words, the scheme of deferred net settlement refers to an agreement that, at some later point, has a net effect on the settlement of obligations or transfers between or between counterparties.

ii. **Minimizes Risks**

As previously mentioned, an efficient payment system minimizes the liquidity, compensation, structural, debt and operating risks that may arise from one or more economic units involving the transfer of monetary value.

iii. **Provides the Necessary Framework for Monetary Stability**

An effective payment mechanism is a prerequisite for the proper functioning of the money and credit markets, as well as the safe execution of monetary policy operations that can ensure

interest rate moderation. In essence, a productive payment mechanism improves the implementation of monetary policy and the preservation of monetary and market stability.

2.1.5 Challenges and Constraints faced by the Nigerian Payments System

Remarkable strides have been made in the country to improve and develop its payments system. However, the system is still characterized by several problems that have continued to militate against optimal operations, growth and development. Some identifiable challenges include:

a) **The problem of the cash economy:** The economy of Nigeria is still largely a cash economy. The financial sector's recurrent distress has magnified dependence on cash for commercial transactions by bank customers. Cash transactions continue to be predominant despite the inherent danger, like armed robbery attacks, counterfeiting of currency notes and coins, and the inconvenience of carrying a large amount of currency. All these increases the cost of currency management, encourage money laundering and leakages.

b) **Infrastructure deficiency**: The inadequate state of the infrastructure for electronic communications and electrical power hinders electronic payments development. Notably, unreliable power supply and insecure wide area networks (WAN) have compelled financial institutions to incur high costs in satellite communications systems and private power supply system investments.

c) **Dubious Practices:** Payment structures are compromised by the wide prevalence of sharp practices and corrupt processes in Nigeria. The dubious practices include intentional misdirection and inaccurate distribution of clearing instruments and the presentation to paying banks of fraudulent and mutated cheques**.** These are associated with the case of insiders' complicity in cheques and bank draft frauds.

d) **Distress in the Financial Sector:** The recurrence of distress in the financial sector negatively influences public confidence in banks and constitutes a serious threat to the payments system's smooth operations.

Other challenges commonly associated with e-payment system include;

1. **Low level of literacy**: electronic payments are a recent development in Nigeria. People find it difficult to operate or use it because it is largely driven by knowledge-based information technology which they are not familiar with.

2. **Large-scale fraud:** Users are susceptible to fraud and loss of funds under the e-payment platform, especially from system security breaches by criminals and hackers.

3. **High charges:** withdrawing from ATMs other than that of the card-issuing bank (third-party ATM card withdrawal) attracts additional charges per transaction. There are also related costs such as VAT and commission incurred for bill settlement using internet banking.

4. **Low level of banking habit:** for most people to use the e-payment platform, they must have a bank account. Non-ownership of accounts hinders one from utilizing the e-payment platform.

5. **Poor service delivery:** is among the major challenges of e-payment in Nigeria. Examples of poor services are insufficient funds in ATMs, network problems, and dispensing errors. Some ATMs are not user-friendly and old notes loaded in them make withdrawal difficult, poor human relations, and long response time when attending to customers' complaints.

6. **Lack of accessibility to e-payment platforms:** Most people in rural do not have access to ATM services as their convenient coverage; thus, its use is still limited to some areas within the country.

2.2 Theoretical Review

Theories were propounded to provide backing to the fact that the acceptance of the payment system and its usage contribute to any nation's economic growth. Various theories exist to explain how a user's behaviour, actions, and responses towards the invention, introduction, and implementation of the payment system have affected the growth of the economy and its development. The following theories supported the relevance of payment systems in the economic growth of Nigeria;

2.2.1 Theory of Reasoned Action (TRA)

The theory of reasoned action (TRA) was developed by Martin Fishbein and Icek Ajzen in 1967. It seeks to clarify the relation about attitudes and actions in individual interaction. This theory was built on the assumption that users of a particular system (for instance, a payment system) will behave or react to a new system like in their previous attitude if they except a similar

outcome from the new system. The reasoned action theory (TRA) is psychologically dependent and is common in predicting human behaviour or action (Sheppard *et al* 1988).

The main assumptions and structures on which this theory stands are; attitude towards usage, social norms, the intention to use actions and the specific usage of a system. The theory hypothesizes that behavioural intent to use dictates the practical use of a system. Subjective expectations and disposition towards use (positive or negative) decide the behavioural purpose to use such a system. The effective use of technology or system by users is determined by knowledge, experience and resources. Environmental factors may cause the conditions of the model not to be met even if the intention to use so is very high, yet the individual may not engage in the intended actions.

This theory was developed from prior social science studies, models of persuasion, and theories of attitude. It is mainly used to forecast how, based on their prior behaviours and behavioural intentions, people will behave. The decision of an individual to participate in specific conduct or action is based on the results that the person expects to show such behaviour. A relationship between attitude and behaviours (the A-B relationship hypothesis as he called it) was suggested by Fishbein's theories.

To resolve any disparities in the A-B relationship theory with the expected theory, the TRA was later updated and further developed by the same two theorists in the following decades with planned behaviour and reasoned action approach (RAA). The theory is used as a theory of comprehension in communication debate as well. However, this theory was dismissed because critics believed that attitude theories did not prove to be good standards for evaluations of human behaviour toward the usage of a device.

2.2.2 Theory of Planned Behavior (TPB)

This theory was an expansion of TRA by the two theorists who also propounded TRA, Martin Fishbein and Icek Ajzen in 1980. The theory of planned behaviour was proposed by Icek Ajzen (1985) through his article "From intentions to actions: A theory of planned behaviour."

This theory also developed, similar to TRA, that behaviour is a direct feature of behavioural intent, but what differs is that TPB believes that the user's behaviour in the use of a system is dependent on the user's intention and the real ease of using the system or technology, which implies a system user's perceived behavioural control. According to the theory of planned behaviour, the perceived regulation of behaviour constitutes perceived ease or complexity of behaviour output.

2.2.3 Technology Acceptance Model Theory (TAM)

Based on the theory of reasoned action and theory of planned behaviour (TPB), Davis in 1986 developed the Technology Acceptance Model, which deals more directly with the prediction of a system's acceptability. The technology acceptance theory postulates the adoption and acceptance of the technology acceptance model (TAM) in businesses to increase economic growth (Ajayi, 2014). The theory of technology acceptance was established to better explain the use and implementation of technology in society.

To make it acceptable to users, this model aims to predict system acceptability and identify the changes that must be made to the system. This model indicates that two primary factors decide the acceptability of a payment system;

- perceived usefulness
- and perceived ease of use.

Perceived usefulness is described as the degree to which a person assumes that by using a device, performance will be improved. And the perceived ease of use relates to the degree to which a person thinks it is easy to use a computer. Perceived usefulness, also referred to as the subjective likelihood of the prospective customer using particular application software, can improve their economic efficiency within an organizational context. The perceived ease of use is defined as the degree to which the potential customer expects the device or software to be effort-free.

The theory of technology acceptance, as seen in the theory of rational action, postulates that the behavioural intent dictates the use of information technology; on the other hand, however, the behavioural intention is decided by the individual's attitude towards the use of the system and also by their perception of its usefulness. According to Davis, the mindset of a person is not the only aspect that defines their use of a device but also depends on the economic output effect it

may have. Therefore, even though an information system is welcomed by an employee, the likelihood that they will use it is strong if they believe that their economic input will strengthen the system. As hypothesized by the Technology Acceptance Model, a strong link exists between perceived utility and perceived ease of use. A consumer would find it more convenient than he considers it easier to use with two systems providing the same functionality (Dillon and Morris, 1996).

Some empirical research has demonstrated that TAM is a stable model for IT. TAM has since been commonly used to conduct behaviours of technology acceptance for different facets of information technology. TAM can be an instrument for evaluating customers' attitudes towards accepting mobile payments and other electronic payment systems. Also, numerous works related to e-commerce has adopted TAM to explore how customers can gain trust in e-commerce. Davis *et al* (1989) have concluded that perceived usefulness may be defined as how a particular system could enhance users' job performance. For instance, people are typically looking for ease, speed, and other incentives for using the systems within the mobile payment context. A system that is rated high in performance expectancy will lead to a positive relationship with user acceptance.

For example, about the perceived ease of use, a good user interface design has possible implications for users. Can users make fast and easy payments? To ensure users can use the systems seamlessly, the device providers have to answer this question. Usability was commonly used in evaluating information numerous examples, in a software product, processes, design, and layout of software products to determine how simple it should be for consumers to use the software and make it do what they want.

TAM is a theory of information and technology systems that models how a technology that will encourage economic development is adopted and used by users. When a user is exposed to a new system, the user uses several variables as assessment criteria to determine the decision to use the new system. According to TAM, the practical usage of a technology system is directly or indirectly affected by the user's behavioural intentions, mindset, perceived utility and simplicity of the system.

2.2.4 Diffusion of Innovation Theory (DOI) or Innovation of Diffusion Theory (IDT)

Rogers (a rural sociology professor) and Gabriel in 1962 developed innovation of diffusion theory (IDT), which became popularized as a result of their 1962 book on Diffusion of Innovations (DOI). The theory describes the mechanism of innovation-decision, and it assists in innovation's adaptation rate. The acceptance and use of new technologies or products by consumers are two main elements in IDT (Zaltman and Stiff, 1973) and help to achieve the probability of adoption of innovation and the mechanism of decision-making on innovation.

Before innovation can successfully appear in the commercial market, a lot of work is required to convince adopters. Individual users will decide whether to adopt an innovation, and this is based on knowledge and the performance of an innovation. Moreover, the adoption speed is also affected by potential adopter's' knowledge and experience of innovation and the knowledge and experience of their close friends and family. On the other hand, different adopters have different approaches toward innovation. As soon as they obtain it, some adopters can use new products or services. Other adapters may wait and see; if the services do not convince them, they will not accept them until they feel comfortable.

The diffusion theory of innovation is a model built to predict factors affecting the acceptance of an information system. The dissemination of information technology (IT) literature stresses the significance of the perceived relative gain and increased organizational efficiency as enablers of the adoption of innovation. The propagation of innovation theory means that prospective adopters judge innovation based on innovation characteristics, such as;

1. Relative benefit: the degree to which an invention is considered to be better than the current product.
2. Complexity: the extent to which it is considered that an invention is difficult to understand and use.
3. Compatibility: the degree to which an innovation is deemed compatible with the existing beliefs and knowledge of the future adopters.
4. Trialability: the degree to which an invention before implementation can be experimented with.

5. Observability: the degree to which others are willing to observe the effects of an invention.

As stated above, these five attributes influence the potential adopters' attitudes and intentions during the adoption process, like analyzing the attitude of users towards ATM adoption. However, Rogers, (1995) also emphasizes that these attributes are conceptually different.

DOI theory seeks to enlighten how, why and at what rate new inventions, systems and technology is diffused in the society. Diffusion is the mechanism by which an innovation is transmitted among members of a social system over time through certain channels in Rogers' meanings. He further clarified that the process of diffusion of innovation is determined by the action of uncertainty reduction among potential adopters during technological innovations. After analyzing a variety of previous innovation diffusion studies, Rogers singled out the following five characteristics of innovations that consistently influence the adoption of new technologies:

- innovation characteristics
- individual user characteristics
- adopter distribution over time
- diffusion networks
- innovativeness and adopter categories (Ajayi, 2014)

Diffusion of Innovation theory (DOI) is also pertinent to explaining the causality between the pertinent variables. In the current research, however, the introduction of different payment mechanisms has been disseminated, where customers are seeking improved and easier transactions, while corporations are seeking new profit opportunities. Therefore, because the effects of the diffusion of the payment system depend on how rapidly society is prepared to accept the payment system through various stages of the innovation processes, the effects of the adoption of the payment system vary from one society to another.

2.2.5 Theoretical Framework

Technology acceptance Model theory was adopted for this study because the model suggests users' behavioural intentions determine actual system use and users' attitudes toward usage influence users' behavioural intentions. Moreover, perceived usefulness and perceived ease of use have affected users' attitudes toward using a system. TAM is a powerful theory to predict

how a user's acceptance of technology will translate into high patronage of a system in the economy resulting in economic growth.

2.3 Empirical Review

The effect of payment systems on Nigeria's economic growth has been studied upon in previous research works. Notwithstanding, there are differences in the factors used to evaluate and analyze the GDP's payment system's effect. Some of the existing works of literature are identified below;

John, (2019) researched the electronic payment system (e-payment) and the economic development of Nigeria. This study has statistically estimated the relationship between electronic (e-payment) systems and economic development in Nigeria. The autoregressive distributed lagged regression (ARDL) approach covering the duration from 2012 – 2017 was used to analyze monthly available data for Nigeria on the values of different payment systems. The findings showed that web-based transactions and POS had a more positive significant impact on the GDP. The result also showed that the electronic payment system has a substantial positive relationship with economic growth in real gross domestic product (GDP) growth. The researcher recommended that the internet security of payment systems should be boosted against hacking.

Ibe, (2018), in his study, titled cashless policy in models of economic growth: the Nigerian evidence empirically analyzed the impact of cashless policy on the Nigerian economy using ATM, mobile banking and POS. Quarterly time series data were gotten from the CBN statistical bulletin from the year 2009 to 2016. Group unit root tests were used in analyzing the study variables; ATM, GDP, MOBK and POS using the Levin, Lin & Chu t, Im, Pesaran and Shin W-stat, ADF - Fisher Chi-square, and PP - Fisher Chi-square test statistics, which indicated the absence of unit roots among the variables. The research results demonstrated the presence of a major long-term relationship between cashless policy variables and the economic growth of Nigeria. The researcher recommended adequate awareness among the unbanked population.

Joseph and Igbunu, (2015) conducted research work on electronic payment system benefits and challenges in Nigeria. Their study on payment system economic benefits and challenges was based on the fact that the internet's arrival has taken electronic payments and transactions to an exponential growth level. The advantages of e-payment are unquantifiable, according to the

researcher, in that it will galvanize Nigeria into a cashless society and remove the fear of the unknown. Their study reveals that e-payment faces difficulties such as public acceptability, banks' lack of a uniform stage of service, lack of effective infrastructure and security issues, proper use of the e-payment system, corruption, which is cancer in the government arena, will be tackled holistically with the appropriate utilization of the e-payment system, and economic progress will be strengthened.

Oginni, El-Maude, Jibreel, Mohammed and Michael, (2013) examined the electronic payment system and Nigeria's economic growth from the year 2005 – 2012 using secondary data obtained from CBN Bulletins, National Bureau of Statistics and the International Monetary Fund (World Development Indicators). The study reveals a significant positive relationship between the e-payment system and economic growth regarding real GDP per capita and trade per capita. Only ATMs were positively contributing to economic growth, while other e-payment channels contribute negatively throughout the study. Therefore, the researcher recommended that the current cashless policy be tailored to an effective e-payment system. Other factors that are very relevant to the successful transition of a cashless economy should be prioritized.

Mamudu and Gayovwi, (2019) assessed the cashless policy and its impact on the economy of Nigeria using quarterly data from the CBN statistical bulletin covering 2011 - 2017. The researcher reveals that cheques, POS and mobile payments have an opposite and insignificant effect on Nigeria's GDP and that, according to short regression results, ATM, WEB and NEFT have a positive and important impact on Nigeria's gross domestic product. The limited effects can be due to poor power/telecommunications infrastructure, inadequate availability of point-of-sale devices and unfriendly mobile apps of some Deposit Money Banks (DMBs) in Nigeria. Therefore, the researcher recommended that the cashless policy be strengthened in Nigeria by the government and DMBs by investing positively in the internet, electricity (power supply) to help solve the bottleneck issues faced by point of sales and internet mobile transactions.

Ogbonna and Virtus, (2020) adopted ordinary least squares (OLS) technique in analyzing the time series data gotten from CBN statistical bulletin as they examine the impact of cashless policy on the economic growth of Nigeria using the following variable tools; automated teller machine (ATM), cheques, web payments, and point of sale (POS). The data collected in their

researcher was subjected to Unit Root, Cointegration and Granger causality tests. Their findings revealed that cashless policy influences the economic performance of Nigeria especially the ATM and POS. They recommend that they should be more investment in ICT to enhance the productivity of the payment system to improve the revenue of banks and likewise improve the performance of the Nigeria economy.

Table 2.3.1 Summary of Empirical Review

S/N	RESEARCHER	YEAR	TOPIC	FINDINGS	GAPS
1	John	2019	Electronic Payment Systems (E-payments) and Nigeria Economic Growth	There is a significant positive relationship between the electronic payment system and economic growth in terms of real gross domestic product (GDP) growth	Scope of study Variables used Measurement of data
2	Ibe	2018	Cashless Policy in Models of Economic Growth: The Nigerian Evidence	The existence of a long run significant relationship between the variables of cashless policy and economic growth in Nigeria	Method of data analysis Scope of study
3	Joseph and Igbunu	2015	Electronic	Their study on	Variables

			Payment System in Nigeria: Its Economic Benefits and Challenges	payment system economic benefits and challenges was based on the fact that the arrival of the internet has taken electronic payments and transactions to an exponential growth level which will boost economic growth.	employed in the study
4	Oginni, El-Maude, Jibreel, Mohammed and Michael	2013	Electronic Payment System and Economic Growth: A Review of Transition to Cashless Economy in Nigeria	That a significant positive relationship between the e-payment system and economic growth in term of real GDP per capita and trade per capita.	Method of data analysis and measurement of data
5	Mamudu and Gayovwi	2019	Cashless Policy and Its Impact on The Nigerian Economy	Shows that ATM, WEB and NEFT have a positive and significant impact on gross domestic product in Nigeria	Measurement of Data.

				according to short regression results while cheque, POS and Mobile Payment Value has an inverse and insignificant impact on the GDP.	
6	Ogbonna and Virtus	2020	Cashless Policy and the Nigerian Economy: A Disaggregated Approach.	The cashless policy influences the economic performance of Nigeria especially the ATM and POS	Variables used and Scope of study

2.4 Gaps in Literature

The empirical reviews disclosed that the payment system is being measured against the GDP using different methods of data analysis, unlike this study, which employed a different method of data analysis in its measurement of the effect of the payment system on the GDP i.e., there is a gap in the measurement of data. The differences in the study's scope, methodologies used the researchers, and likewise, the geographical settings, existing policy thrust, the type of variables, and others certainly account for the gap in the literature.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter contains details of the study's research design, research method, area of study, and the study population. The sampling technique and sample size used was also explained in this chapter. This section also consists of the nature and sources of data, the secondary data, how it was obtained, its reliability, validity, and data collection method. The research methodology also contained information on the model specification and method of data analysis.

3.1 Research design

This study adopted the *ex-post facto* research design using quarterly data obtained from CBN's quarterly data from 2014 - 2019. The study also used correlation analysis to discover the significant effect of payment devices on GDP.

Therefore, these research designs are appropriate for this study as they tend to examine the effects of the independent variables (payment system) on the dependent variable (GDP) utilizing time series data gotten from the various CBN statistical bulletins.

3.2 Area of study

The study area is Nigeria, a country located in the western region of Africa on the continent of Africa. This study is focused on Nigeria.

3.3 Population of the study

The population of the research work is the total payment system available in Nigeria., which are;

i. cheque
ii. Automated Teller Machine (ATM)
iii. Point of Sale (POS)
iv. WEBPay (internet)
v. Mobile Pay
vi. M-Cash
vii. Remita
viii. EBILLSPay
ix. Central Pay
x. NIBSS Payment Platforms
   a) NIBSS Automated Payment Services (NAPS)
   b) NIBSS Instant Payments (NIP)
   c) NIBSS Electronic Funds Transfer (NEFT)

3.4 Sample and sample size

The sample size is the number (n) of perceptions taken from a populace through which factual inductions for the entire populace are made.

Based on value and impact, the researcher deems it fit to select four (4) payment systems out of Nigeria's ten functional existing payment systems. Both electronic and non-electronic payment system was selected to achieve the research objectives.

Names of payment systems selected are;

- Cheque
- Automated Teller Machine (ATM)
- NIBSS Instant Payment platform (NIP)
- Remita

3.5 Sampling technique

The researcher used the purposeful sampling technique to pick the samples. This sampling technique's main objective is to emphasize specific characteristics of the population that are of interest, which best help the researcher answer the research questions.

3.6 Sources and nature of data

The main source of data employed to carry out this study is the secondary data obtained from the CBN's annual statistical bulletin from 2014 – 2019, which means period of 6 years.

3.7 Reliability, validity of data and research instrument

Reliability means the quality of being dependable. At the same time, validity means logically, legally acceptable with effectiveness.

Therefore, the data and research instrument used in carrying out this study is reliable and valid because it is was gotten from CBN and regulatory authorities, which means that;

- The necessary background work needed were executed by professionals already and validated by regulatory bodies like the CBN.
- This data was also verified and certified by the CBN before they are published.
- They also have been employed in previously generally acknowledged literature.

3.8 Method of data collection

The research was carried out using time series data from the CBN's annual statistical bulletin.

3.9 Model specifications

The model used in this study seeks to explore independent variables to empirically capture the effect of payment systems on the economic growth of Nigeria through the value of cleared Cheques, Automated Teller Machine (ATM) payment value, NIBSS Instant Payment (NIP) value, Remita payment value and the Gross Domestic Product are presented using multiple regression model to establish functional relational as follows;

GDP = f (CHEV, ATM, NIP, REMITA,). ------------------ (1)

Equation 1 is expressed in the form below for statistical test as:

GDP = $\alpha 1 + \beta 1$CHEV + $\beta 2$ATMV + $\beta 3$NIPV+ $\beta 4$RemitaV + $\mathcal{E}$ t-----------(2)

(apriori expectation $\beta 1$, $\beta 2$, $\beta 3$, and $\beta 4 > 0$

where;

GDP = Gross domestic product

CHEV = Cleared cheque value

ATMV = Automated Teller Machine Value

NIPV = NIBSS Instant Payment value

RemitaV = Remita payment value

εt = Error Term

$\alpha 1$ = is constant

$\beta 1$- $\beta 4$ = coefficient of independent variables.

3.10 Method of data analysis

The quantitative technique of data analysis was used to analyze the data of this research work. Analysis of data was carried using some econometric and statistical packages. One of these packages is ANOVA, which was used to analyze the payment system values' relationship to the gross domestic product. Regression analysis (multiple regression) was used to test and establish the relationship between the variables using the Statistical Package for Social Sciences (SPSS).

CHAPTER FOUR

DATA ANALYSIS, RESULT, INTERPRETATIONS AND SUMMARY OF FINDINGS

4.0 Introduction

This chapter deals with the evaluations, analysis, interpretation of data and summary of findings. Importantly, the chapter contained a detailed analysis of the payment system's effect on Nigeria's economic growth. Quarterly data of Cheque payment system, Automated Teller Machine payment system, NIBSS Instant Payment system, Remita payment system and the Gross Domestic Product between 2014 and 2019 were gotten from CBN statistical bulletin. Also, in this same section, the results based on formulated models were regression models in the preceding chapter are presented, while the interpretation and summary of findings are aligned with the stated objectives of this study. It also constituted the basis on which conclusion and recommendations are based.

4.1 Preamble

The model summary table provides the R and R2 values. The R-value represents the simple correlation, while the independent variables can explain R2 indicates how much of the total variation in the dependent variable.

The next table is the **ANOVA**, which information how well the regression equation fits the data (i.e., predicts the dependent variable). This table designates that the regression model predicts the dependent variable significantly well. The value of the regression row, with its significance, indicates the statistical significance of the regression run. Where the P-value is minus than 0.05, it indicates that, overall, the regression model significantly predicts the outcome variable (i.e., it is a good fit for the data); otherwise, if it is more than 0.05, it indicates that overall, the regression does not significantly predict the outcome variable.

The **coefficients table** provides the necessary information to predict the dependent variable from the independent variable and determine whether the independent variable contributes statistically significantly to the model. The values in the ''unstandardized coefficients'' is made use of.

With **multiple regression**, the R represents the multiple correlation coefficient, and it is one measure of the quality of the forecast of the dependent variable. The R2, also called the coefficient of determination, represents the proportion of variance in the reliant variable that can be clarified 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 for the data; otherwise, if the p-value is more than 0.05, then it is not statistically significant to predict and not a good fit for 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 Gross domestic product (a proxy for economic growth) and cheque payment platform of the payment system

Table 4.2.1 (a): Model Summary

T		R Square	Adjusted R Square	Std. Error of the Estimate
1	.853[a]	.727	.715	.10263

a. Predictors: (Constant), lnCHQ

Source: Author's computation 2020

Table 4.2.1 (b): ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.617	1	.617	58.576	.000[b]
	Residual	.232	22	.011		
	Total	.849	23			

a. Dependent Variable: lnGDP

b. Predictors: (Constant), lnCHQ

Source: Author's computation 2020

Table 4.2.1 (c): Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	59.283	3.703		16.010	.000
	LnCHQ	-1.013	.132	-.853	7.654	.000

a. Dependent Variable: lnGDP

Source: Author's computation 2020

Interpretation

From the regression tables above (Tables 4.2.1a - 4.2.1c), the model summary result indicated a negative but a strong correlation between cheque payment and gross domestic product in Nigeria. It is reflected in the value of the coefficient of the correlation (R), which is 0.853. This

41

value indicates that the relationship between the two variables under study is about 85.3%. The coefficient of purpose (R2) showed a value of 0.727, which indicates about 72.7%. This result implies that, on average, about 72.7% variations in the gross domestic product within the period under review are systematically explained by changes in cheque payment. Thus, not more than 27% of the gross domestic product variations remain unexplained by this explanatory variable. The coefficient value is -1.013, with a corresponding p-value of 0.000.

It is less than the 0.05 (5%) significance level. It depicts a statistically significant relationship and impact between cheque payment and gross domestic product. Therefore, we cull the null hypothesis of no significant relationship and accept the alternate hypothesis of a significant relationship.

4.2.2 HYPOTHESIS TWO

Relationship between Gross domestic product (proxy for economic growth) and Automated Teller Machine payment platform.

Table 4.2.2 (a): Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.891[a]	.793	.784	.08930

a. Predictors: (Constant), lnatm

Source: Author's computation 2020

Table 4.2.2 (b): ANOVA[a]

42

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	.673	1	.673	84.420	.000[b]
Residual	.175	22	.008		
Total	.849	23			

a. Dependent Variable: lngdp

b. Predictors: (Constant), lnatm

Source: Author's computation 2020

Table 4.2.2 (c): Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
1 (Constant)	12.525	2.005		6.248	.000
Lnatm	.660	.072	.891	9.188	.000

a. Dependent Variable: lngdp

Source: Author's computation 2020

Interpretation

From the regression tables above (Tables 4.2.2a - 4.2.2c), the model summary result indicated a positive and strong correlation between automatic teller machine and gross domestic product in Nigeria. It is reflected in the value of the coefficient of the correlation (R), which is 0.891. This value indicates that the relationship between the two variables under study is about 89.1%. The coefficient of fortitude (R2) showed a value of 0.793, which indicates about 79.3%. This result implies that, on average, about 79.3% variations in the gross domestic product within the period under review are systematically explained alone by changes in the automatic teller machine platform. Thus, not more than 20% of the gross domestic product variations remain unexplained by this explanatory variable. The coefficient value is 0.660 with a corresponding p-value of 0.000. It is less than the 0.05 (5%) significance level. It depicts a statistically significant

relationship and impact between automatic teller machine payment and gross domestic product. Therefore, we reject the null hypothesis of no significant relationship and accept a significant relationship's alternate hypothesis.

4.2.3 HYPOTHESIS THREE

Relationship between Gross Domestic Product (proxy for economic growth) and NIBSS Instant Payment platform of the payment system

Table 4.2.3 (a): Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.943[a]	.888	.883	.06562

a. Predictors: (Constant), lnnip

Source: Author's computation 2020

Table 4.2.3 (b): ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.754	1	.754	175.093	.000[b]
	Residual	.095	22	.004		
	Total	.849	23			

a. Dependent Variable: lngdp

b. Predictors: (Constant), lnnip

Source: Author's computation 2020

Table 4.2.3 (c): Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	21.661	.702		30.873	.000
	Lnnip	.295	.022	.943	13.232	.000

a. Dependent Variable: lngdp

Source: Author's computation 2020

Interpretation

From the regression tables above (Tables 4.2.3a - 4.2.3c), the model summary result indicated a positive and strong correlation between NIBSS Instant payment and gross domestic product in Nigeria. It is reflected in the value of the coefficient of the correlation (R), which is 0.943. This value indicates that the relationship between the two variables under study is about 94.3%. The coefficient of fortitude (R2) showed a value of 0.888, which indicates about 88.8%. This result implies that, on average, about 88.8% variations in the gross domestic product within the period under review are systematically explained by changes in NIBSS Instant payment. Thus, not more than 11% of the gross domestic product variations remain unexplained by this explanatory variable. The coefficient value is 0.295, with a corresponding p-value of 0.000. It is less than the 0.05 (5%) significance level. It depicts a statistically significant relationship and impact between NIBSS Instant payment and gross domestic product. Therefore, we reject the null hypothesis of no significant relationship and accept a significant relationship's alternate hypothesis.

4.2.4 HYPOTHESIS FOUR

Relationship between Gross Domestic Product (proxy for economic growth) and Remita payment platform of the Nigeria payment system

Table 4.2.4 (a): Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.904[a]	.818	.810	.08377

a. Predictors: (Constant), ln remita

Table 4.2.4 (b): ANOVA[a]

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	.694	1	.694	98.944	.000[b]
Residual	.154	22	.007		
Total	.849	23			

a. Dependent Variable: lngdp

b. Predictors: (Constant), lnremita

Source: Author's computation 2020.

Table 4.2.4(c): Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	21.440	.956		22.438	.000
Lnremita	.317	.032	.904	9.947	.000

a. Dependent Variable: lngdp

Source: Author's computation 2020

Interpretation

From the regression tables above (Table 4.4a - 4.4c), the model summary result indicated a positive and strong correlation between remita and gross domestic product in Nigeria. It is reflected in the value of the coefficient of the correlation (R), which is 0.904. This value indicates that the relationship between the two variables under study is about 90.4%. The coefficient of fortitude (R2) showed a value of 0.818, which indicates about 81.8%. This result implies that, on average, about 81.8% variations in the gross domestic product within the period under review are systematically explained by changes in the remita payment platform. Thus, not more than 20% of the gross domestic product variations remain unexplained by this explanatory variable. The coefficient value is -1.013, with a corresponding p-value of 0.000. It is less than the 0.05 (5%) significance level. It depicts a statistically significant relationship and impact between remita payment platform and gross domestic product. Therefore, we cull the null hypothesis of no significant relationship and accept a significant relationship's alternate hypothesis.

4.2.5 OVERALL REGRESSION

Relationship between the Gross Domestic Product (proxy for economic growth) and the payment system in Nigeria

Table 4.5 (a): Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.965[a]	.931	.916	.05568

a. Predictors: (Constant), lnREMITA, lnATM, lnCHQ, lnNIP

Source: Author's computation 2020

Table 4.5 (b): ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.790	4	.197	63.689	.000[b]
	Residual	.059	19	.003		
	Total	.849	23			

a. Dependent Variable: lnGDP

b. Predictors: (Constant), lnREMITA, lnATM, lnCHQ, lnNIP

Source: Author's computation 2020

Table 4.5 (c): Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	13.705	7.739		1.771	.093
	lnCHQ	.155	.216	.130	.717	.482
	lnATM	.218	.129	.295	1.700	.105
	lnNIP	.635	.124	2.027	5.121	.000

	lnREMITA	-.438	.148	-1.251	-2.957	.008

a. Dependent Variable: lnGDP

Source: Author's computation 2020

Interpretation

From the overall regression tables above, the model summary result indicated a positive and strong correlation between gross domestic product and the selected payment system platform in Nigeria. It is reflected in the value of the coefficient of the correlation (R), which is 0.965. This value indicates that the relationship between the gross domestic product and the independent variables under study is about 96.5%. The coefficient of fortitude (R^2) showed a value of 0.931, which indicates about 93.4%. This result implies that, on average, about 93.1% variations in the gross domestic product within the period under review are systematically explained by changes in all the independent variables. Thus, more than 6% of variations in the gross domestic remain unexplained by these payment platforms. Since $F_{(4, 19)}$ with its corresponding p-value of 0.000 is less than the 0.05(5%) level of significance, we reject the null hypothesis of no significant impact and relationship between the payment system and economic growth and accept the alternate hypothesis of significant impact and relationship.

The overall regression model, therefore, can be stated as:

GDP = 13705 + 0.155 (CHQ) + 0.218(ATM) +0.635 (NIP) − 0.438 (REMITA) + μ.

Tail probability p

df	.25	.20	.15	.10	.05	.025	.02	.01	.005	.0025	.001	.0005

Confidence level C

4.3 Discussion of findings

The Gross domestic product is one of the most prominent ways of measuring the economic growth of a country. Since the payment system value got is for Nigeria as a whole, it is, therefore, appropriate to use a measure that would integrate the whole economy. To achieve the first hypothesis of determining the relationship between the gross domestic product and cheque, the gross domestic was regressed against the value cheque transactions for the period of the study. The result indicated that there is a significant relationship between the economic growth of Nigeria and the cheque payment platform. Moreover, the result showed a positive relationship between the two variables, the positive relationship is significant as the p-value is less than the (0.05) 5% level of significance. The positive relationship implies that when the cheque payment platform transactions increase, it leads to an increase in the economic growth of Nigeria, and this is statistically significant. To achieve the second hypothesis of ascertaining the relationship between the economic growth of Nigeria and the automatic teller machine payment transactions, the gross domestic product was regressed against the value of the automatic teller machine transactions for the period under research. The result indicated that there is a significant relationship between the economic growth of Nigeria and the automatic teller machine payment transactions value. The result showed a positive relationship between the two variables, the positive relationship is significant as the p-value is 0.000 which is less than the required benchmark of (0.05) 5% level of significance. This result depicts that as the ATM payment platform transactions increases, it will lead to a corresponding increase in the economic growth of Nigeria, and this relationship in increase is statistically significant. To achieve the third hypothesis of evaluating the relationship between the economic growth of Nigeria and the NIBSS Instant payment transactions, the gross domestic product was also regressed against the value of the NIBSS Instant Payment (NIP) platform transactions. The result indicated that there is a significant relationship between economic growth and NIBSS Instant payment transactions. Moreover, the result showed a positive relationship, the positive impact is significant as the p-value of the result is 0.000 which is less than the 5% significant level. The result signifies that as the NIP payment platform transactions increases, the economic growth will in like manner also increase, and this increase is statistically significant. The fourth hypothesis which is the last hypothesis is determining the relationship between the economic growth of Nigeria and Remita payment platform, the gross domestic was regressed against the value of the Remita payment

platform transactions. The result confirmed that there is a significant relationship between the economic growth of the country and Remita payment platform transactions. The result also indicated a positive relationship, the positive effect is significant as the p-value is 0.000 which is less than the (0.05)5% level of significance. This means as the transactions on Remita payment platform increases, the economic growth of Nigeria increases, and the increase is statistically significant.

All these results obtained in this study 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 economic growth of Nigeria when all interacted together with the dependent variable. The result indicated that a significant impact and relationship, and the relationship is positive, it is significant statistically as the p-value of the overall F statistics of (4,19) is 0.000 which is less than the 5% level of significance.

The result and findings of this study agree with the outcome of the investigation or study by Oginni, *et. al,* (2013) and Ogbonna and Virtus, (2020) on Nigeria in which the ATM payment channels used in the study contributed significantly to the economic growth of the country.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of the study

This study examined the effect of payment system value on the economic growth of Nigeria. Previous study and literature have also treated this topic, but the different methodologies used by different researchers, measurement of data, the geographical or environmental settings under which the studies were carried out, sources of data, jurisdictions and policies in existence for study, among others that could also make this research unlike other previous researchers' work is also the scope of this study.

This study consists of five chapters. Chapter one checked into the background of the study, clearly described the problem of the study. Likewise, the study's delimited objectives, research questions, and hypotheses on which the investigation was to be conducted were formulated. Chapter one also foregrounded the justification and significance of this research and as well described its scope. Terminologies important to the research were defined according to their contextual use in the study. Succinctly, chapter one served as the introduction to the study.

Chapter two dealt with the three basic parts of the study. These are known as the conceptual review, which emphasized the evolution of the payment system in Nigeria, concepts of the payment system, the payment system's role in Nigeria, types of the payment system, the structure of Nigeria payment system, and challenges faced by the Nigeria payment system. The theoretical review includes the theory of reasoned action, planned behaviour, technology acceptance theory, and diffusion of innovation theory. The empirical review as an exhaustive study of researchers' previous efforts on payment systems affects the economy.

Chapter three presented the methodology for the study. The chapter discoursed the research design, area and population of the study. The suitable sample size was determined using a purposive simple random sampling technique. The type and source of data were disclosed, instruments of data collection, validity, reliability, and data collection and administration of instrument was explained. Moreover, the appropriate functional relationship and the associated

model, techniques for the evaluation of the model coefficient, and apriori expectation were represented.

In chapter four, the data were analyzed. This section of the study involves the data analysis and its interpretation and the findings, its implications and summary. The conclusion and recommendations given in chapter five were drawn from this section.

5.2 Conclusion

This research's main objective is to determine the effect of the payment system on the gross domestic product. The results obtained from the data analysis revealed that the independent variables employed in the model (value of cleared Cheques, Automated Teller Machine (ATM) payment value, NIBSS instant pay (NIP) payment value, Remita payment value) explains about 94% of the systematic variation in the dependent variables. Which means that 94% of the variations in the gross domestic product can be explained by the changes in the payment systems. The overall regression values depict a strong and positive correlation between the gross domestic product and the selected payment system platform. Conclusively, based on this, the payment system employed in this study has a significant positive impact on Nigeria's economic growth.

5.3 Recommendation

For the nation to benefit economically more from its payment system, the following recommendations are to be followed;

1. A nationwide rural area enlightenment and awareness program on the use of the various payment systems by one-self since the rural areas constitute the largest segment of the society that still patronizes the cash-based economy system, which adversely affects the economic growth of the country through the cost of cash management and social vices associated with cash handling.

2. The government should promote jingles on the radio station and Tv station advertisements nationwide on how to use the various payment systems and its benefits to permanently shift the populace's focus from a cash-driven system to a cashless payment system.

3. Financial institutions, especially the CBN and deposit money banks, should reduce the requirements and criteria needed to get a POS machine by business owners so that small

scale business owners in rural areas can easily access this machine for their business, thereby promoting more recorded economic transactions which will lead to the availability of data for easier measurement of those variables contributions to economic growth.

4.   The Central Bank of Nigeria, deposit money banks and the payment service providers should work jointly to produce more security pass for online transactions like a secret personal account question other than the generally known OPT code as a result of the high rate of internet fraudulent activities popularly known as "YAHO-YAHOO," which have scared many users of online payment platform from its further use.

5. The payment service providers should work on the internet traffic issues encountered by users of the online payment system by increasing the payment system framework's capability and capacity to encourage re-establish the confidence of users who have been discouraged by its slow response to payment instructions.

6. Efforts should be made to reduce the long queues seen at various ATM points in the country by ensuring that more ATM points should be located in residential areas. And the existing and the new one should be functional; in essence, its various stand should be able to dispense cash 24/7 with no network issues nor technical issues.

7. The CBN, Banks and other financial institutions should seriously work hard on tackling cybersecurity issues and official websites cloning to restore and encourage the confidence of online payment platform users.

5.4 Limitation of the study

This study's major restriction or limit is the inability to access Nigeria's monthly GDP data for a more perceived empirical analysis because the institutions responsible for such data like the Central Bank of Nigeria and Nigeria Bureau of Statistics only published the quarterly GDP. Notwithstanding, the obtainable data from the CBN's statistical bulletin were appropriate and sufficient to analyze the affiliation between the dependent and independent variables. The result and findings that were gotten adequately met the study's objective, which is to determine the effect of the payment system on the economic growth of Nigeria.

5.5 Suggestion for further Studies

This research work captured the effect of the payment system on the economic growth of Nigeria with specification on the effect of Cheque, ATM, NIBSS Instant Payment (NIP) platform and Remita on the GDP. Therefore, the researcher suggests that further studies should be done on other types of payment systems to discover which payment system has the most significant effect on economic growth and which does not. With that way, financial and regulatory authorities will proffer solutions to improve the one with less effect on the economic progress of the country, and in like manner, and adequately direct resource to the ones the contributes more to economic growth to derive full utilization.

Future research should be into the payment system's contribution to the actualization of Nigeria's vision 2020 and challenges met because the payment system is one of the major keys needed to achieve vision 2020.

References

Abrazhevich, D. (2002). "Classification and Characteristics of Electronic Payment Systems" Retrieved From Www.Citeserr.Nj.Ntc.Com.

Afaha, J.S. (2019). Electronic Payment Systems (E-Payments) And Nigeria Economic Growth. *European Business and Management*, 5(6), 77-87.

Ajayi, L.B. (2014). Effect of Cashless Monetary Policy on Nigerian Banking Industry: Issues, Prospects and Challenges. *International Business and Finance Management Research*, 2(1), 29-41.

Ajayi, S.I. And Ojo, O.O. (2006). Money and Banking: Analysis and Policy in The Nigerian Context, Second Edition, University of Ibadan, Daily Graphics Nigeria Ltd.

Ajzen And M. Fishbein, Understanding Attitude and Predicting Social Behaviour. Englewood Cliffs, NJ: Prentice-Hall, 1980.

Ajzen, I. (1985). From Intentions to Actions: A Theory of Planned Behaviour. Action Control. Springer Berlin Heidelberg, 11-39.

Anik, A.A. & Pathan, A.K. (2002) A Framework for Managing Cost-Effective and Easy Electronic Payment System in The Developing Countries. Retrieved From Www.Commonwealth.Com.

Asaolu, T. O. Ayoola, T. J. & Akinkoye, E. Y. (2011). Electronic Payment System in Nigeria: Implementation, Constraints and Solutions. *Journal of Management and Society*. 1(2), 16-21.

CBN Annual Activity Report. (2012).

Central Bank of Nigeria (2011). Cashless Lagos Implementation. CBN Bulletin.

Central Bank of Nigeria (CBN) Statistical Bulletin. (2018)

Cobb, A. (2004). Efficient, Safe and Convenient Electronic Payments. Retrieved From: Http://Www.Amenifo.Com/50050.Html.

Davis, F.D., Bagozzi, R.P., And Warshaw P.R. (1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science*, 35(8), 982-1003.

Ejiro, O. (2012). What Nigerians Think of The Cashless Economy Policy. *Nigerian Journal of Economy*, 4(6), 97 – 102.

Friedman, B. (1999). The Future of Monetary Policy: The Central Bank as An Army with Only A Signal Corps? *International Finance*, 2(3), 321-338.

Herzberg, H. (2003). The Determinants of Commercial Bank Interest Margin and Profitability: Evidence from Tunisia. Working Paper 8566365. Htpp://Www.Papers.Ssrn.Com/Sol3/Papers.Cfm

Humphrey, D. B. (2004). Replacement of Cash by Cards in U.S. Consumer Payments. *Journal of Economics and Business*, 56, 211–225.

Humphery, D.B. *et al*. (1996), Survey of Electronic Payments: A Cross-Country Analysis, *Journal of Money, Credit and Banking*, 33(2) Part (1), 216-234

Imiefoh, P. (2012). Towards Effective Implementation of Electronic Banking in Nigeria. *An International Multidisciplinary Journal, Ethiopia, African Research Review*. 6(2), 290-300.

Joseph, O., And Igbunu. R. (2015). Electronic Payment System in Nigeria: Its Economic Benefits and Challenges. *Journal of Education and Practice*, 6 (16).

Kerlinger, F. N. (1964). Foundations of Behavioural Research. Retrieved From Https://Files.Eric.Ed.Gov/Fulltext/ED090962.Pdf

Fishbein, M. And Ajzen I. (1975). Belief, Attitude, Intention and Behaviour: An Introduction to Theory and Research. London: Addison-Wesley.

Mamudu, Z. And Gayovwi. O. (2019). Cashless Policy and Its Impact on The Nigerian Economy. *International Journal of Education and Research*,7(3), 111- 132.

Massimo, C. And Gracia, J.A. (2008). Measuring Payment System Development. The World Bank.

Nweze, C. (2010), "Bank Sensitise Customers on N10 million benchmark" The Nation, Wednesday, January 13, p.23

Nzotta, S.M. (2014). Money, Banking and Finance: Theory and Practice. Revised Edition.

Odior, E. S. & Banuso, F. B. (2012). Cashless banking in Nigeria: Challenges, benefits and policy
implications. *European Scientific Journal*, 8(12): 289.

Odior, E.S., and Banuso, F.B. (2018), Cashless banking in Nigeria: challenges, benefits & policy implications. *European Scientific Journal*. 8(4),12 – 16.

Ogbeide, Nwamaka, And Victoria (2015). An Empirical Investigation into The Impact of Electronic-Banking on Nigerian Economic Growth. *The Journal of Economics and Social Studies*, 8(1): 108-121.

Ogbonna, A. A. And Virtus, A. S. (2020). Cashless Policy and The Nigerian Economy: A Disaggregated Approach. *International Journal of Humanities Social Sciences and Education*, 7(4), 21 – 30.

Ogbuji, C. N. *et al*. (2012). Analysis of The Negative Effects of The Automated Teller Machine (ATM) As A Channel for Delivering Banking Services in Nigeria. *International Journal of Business and Managemen*t,7, (7).

Oginni O., El-Maude, Jibreel. G., Mohammed, A. And Michael, O. (2013). Electronic Payment System and Economic Growth: A Review of Transition. To Cashless Economy in Nigeria. *International Journal of Scientific Engineering and Technology* 2 (9), 913-918.

Ojo Ade T. (2010). The Nigerian Maladapted Financial System: Reforming Tasks and Development Dilemma, Ota-Nigeria: Covenant University.

Ojo, J.A.T. (1998). Improving the Nigerian Payment System: Prospects and Promises. *Nigerian Journal of Banking and Financial Issues*, 1(1), 39-47.

Raja, J.R (2008), "E-Payments: Problems and Prospects", *Journal of International Banking and Commerce*, 13 (1)

Rogers, E. M. (1976). New Product Adoption and Diffusion. *Journal of Consumer Research*, 2 (4), 290-301.

Rogers, E. M. (1995). Diffusion of Innovations: Modifications of A Model for Telecommunications. In Die Diffusion Von Innovationen In Der Telekommunikation Springer Berlin Heidelberg, 25-38.

Rogers, E.M. (1995). Diffusion of Innovations. New York: The Free Press.

Sheppard, B.H., Hartwick, J., and Warshaw, P.R. (1988) 'The Theory of Reasoned Action: A Meta-analysis Of Past Research with Recommendations for Modifications and Future Research.' Journal Of

Tan, M. (2004). E-Payment: The Digital Exchange. Singapore. Singapore University Press, NUS Publishing

Tuckman, B.W. (1972). Conducting Educational Research. Retrieved From Http://Ww2.Odu.Edu/~Jritz/Attachments/Coedre.Pdf

Zandi M, Singh V, Irving J (2013) The Impact of Inequality on Economic Growth on Economic Growth, Moody's Anal., 1–16.

APPENDIX

YEAR	GDP	CHQ	NIP	ATM	REMITA	
	N	**N**	**N**	**N**	**N**	**N**
2014Q1	20169778043427.40	1894070149517.79	784053482713.80	19334312499214.10	5105584421206.92	
2014Q2	21734829862436.00	1816602853399.00	852355338364.13	19436234062811.30	4847965011132.73	
2014Q3	22933144012973.60	1802252516147.00	1027923585023.27	19972460354468.50	4785328379292.63	
2014Q4	24205863337353.20	1756153713247.00	1015545194137.07	20942991374185.90	4917674525686.60	
2015Q1	21041701096899.80	1654316435957.96	937963288868.88	22347827121963.40	5245003450314.64	
2015Q2	22859153010296.10	1540428249092.00	962429777930.64	24186967597801.00	5767315153176.77	
2015Q3	24313636938568.60	1498952277671.00	1011481559682.33	26460412801698.80	6484609634272.96	
2015Q4	25930469406704.90	1501764518546.31	1058377788437.94	29168162733656.70	7396886893603.24	
2016Q1	22235315286113.90	1453290310533.00	1069989914705.17	32538418828054.00	9234109902994.69	
2016Q2	23547466910877.00	1441500683479.00	1134496221729.94	36023497642380.40	10244367530062.20	
2016Q3	26537651011379.30	1414899920827.69	1246798709648.27	39851600611015.10	11157622746633.00	
2016Q4	29169058993598.20	1519858353789.22	1536848555460.80	44022727733958.30	119733875552707.10	
2017Q1	26028356030762.60	1479096114573.55	1502056941171.48	48425571541275.60	12124137058002.90	
2017Q2	27030250466464.50	1308669336690.94	1544229440835.01	53327269960809.20	12973980599196.00	
2017Q3	29377674031033.20	1291757838147.99	1558755283086.01	58616515522624.90	13954417286004.90	
2017Q4	31275354079570.70	1316890045698.70	1832550749475.64	64293308226722.60	15065447118429.70	
2018Q1	28438604234965.30	1279077346045.25	1568949123273.66	71241800649514.50	17061341333109.90	

2018Q2	30699566802348.90	1180945584892.65	1603166418215.36	77340026607611.50	18131848962110.50
2018Q3	33368049138516.80	1258421973053.87	1591013537266.77	83472138677425.80	19031241242071.10
2018Q4	35230607634365.50	1152753342032.38	1716956832430.00	89638136858957.20	19759518172991.60
2019Q1	31824349667097.20	1118164782847.48	1539265921075.54	95838021152205.90	20316679754872.20
2019Q2	35001877950000.00	1099700029621.33	1699162909945.97	102071791557171.00	20702725987712.70
2019Q3	37806924410000.00	1111051060679.00	1622925987274.55	108339448073854.00	20917656871513.20
2019Q4	39577340036916.30	1302386422254.68	1651253420093.60	114640990702255.00	20961472406273.70

APPENDIX I: DATA USED

Keys;

GDP = Gross Domestic Products

CHQ = Cheque

NIP = NIBSS Instant Payment

ATM = Automated Teller Machine

REMITA