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The Effect of Adoption of Internet Banking on Performance in the Banking Industry in Nigeria

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Abstract
This study examined the effect of adoption of internet banking on performance in the banking industry in Nigeria following the adoption of internet banking in the country which has redefined the way banking transactions are being carried out. Convenience sampling method was adopted, making use of both primary and secondary data. Copies of a questionnaire was distributed among a sample of 156 respondents from six banks out of the population of 22 banks. Descriptive (mean, median, standard deviation and variance) and inferential statistics (ANOVA) were used for the data analysis with the aid of Statistical Packages for Social Sciences (SPSS) version 20. It was observed that the adoption of internet banking does not significantly affect the performance of Nigeria banks as cost of operation has not reduced, profitability has not increased compared to liabilities, level of fraud has been on the increase and influx of customers to the banking hall have also not reduced.
Keywords: Internet banking, profitability, fraud, liabilities, assets, accounts, strategy, financial report, operation cost, automated teller machine, online, computers, hardware, software, risks, crime, LAN,WAN etc.

1. Introduction

The General Olusegun Obasanjo administration in 1999 gave precedence to global telephony in Nigeria with the advent of the GSM telecommunication in which mobile phones and sim cards were made readily available to the populace irrespective of class or age. This helped to further the adoption of the Internet banking in Nigeria subsequently in 2002 and during the merger and acquisition period of banks as directed by the Central Bank of Nigeria in 2004. As at the time before merger, the number of banks in Nigeria was 89. Of the 89 banks then operating in Nigeria, only 52 were deemed sound out of which 11 were considered excellent. Over a period of 18 months, 14 banks were wound up and the remaining banks were urged to consolidate. In the end, 25 banks emerged from the Nigerian Government's consolidation push (Stan and Simon; 2009). Currently on the Central Bank of Nigeria's website on March 7th, 2016 there are now 22 banks including SunTrust Bank Nigeria Limited from the 21 banks as at 2015 in Nigeria.

The advent of internet has been a great discovery in the field of information communication technology which enables connection between users all around the globe to promote business, cultural, political and economic relationship as the world becomes borderless. The need to remain relevant, meet customers' needs and reduce physical theft has made banks to move from 'Brick and Mortar' way of banking to 'sophisticated' means of banking through the use of advanced technology.

The internet has changed the way business is being done globally with most organisations having an internet presence to meet customer's enquiry, recruitment, appraisal process, as well as facilitate trading online, while also helping businesses to grow on the World Wide Web. The banking industry is using this communication media to offer its customer value added service and convenience (Tafadzwa, Kerina, Petronella, & Tinovimbashe, 2012). Recently in February 2015, Fitch ratings endorsed a long-term issuer default ratings of 10 Nigerian banks. The banks are Zenith Bank PLC, FBN Holdings PLC and a subsidiary, First Bank of Nigeria Limited, United Bank for Africa PLC, Guaranty Trust Bank PLC, Access Bank PLC, while others are Diamond Bank PLC, Fidelity Bank PLC, Union Bank PLC, and First City Monument Bank Limited.

Using this medium to enhance the way banking operates, the research investigates how this reflects in the financial statement of the organisation either positively or negatively while comparing its cost and benefits to the organisation. The duties of the banks are collection of deposits, financing of mortgages, facilitating trade, management of customers' portfolios, serving as pension custodians, provision of credit facilities etc (Alade, n.d.). With the internet, most of these services are readily available online real time without the customer having to necessarily come to the bank to initiate a transaction, though subsequently his visit may be required or his identity may be needed through the know your customer (KYC) initiative in order to guide against fraud. This is a new dimension of doing business, thereby reducing the influx of customers to the banking hall, reducing hazards of robbery at banks, or theft of customers' properties (Abanewe, Ogbulu & Ndugbu, 2003).

Out of the 21 banks as at 2015 in Nigeria, 13 of these banks were ranked by Alexia.org in internet banking presence and products and in compliance with internet standard presence (Alexia, 2015). These are, Guaranty Trust Bank Plc, Zenith Bank Plc, Diamond Bank Plc, First Bank of Nigeria Plc, Access Bank Plc, Skye Bank Plc, United Bank for Africa Plc, Fidelity Bank Plc, Central Bank of Nigeria, and Federal Capital Monumental Bank (FCMB) ranked in order from 1 to 10 while Wema Bank Plc, Key Stone Bank and Standard Chartered Bank are ranked 11th, 12th and 13th respectively. This shows that most of the Nigerian Banks have an Internet

presence. This research work looked at the effect of the adoption of internet banking on the profitability of some of these banks based on their ranking, their years of presence and their size and the ratio of the company's Return on Asset bears to the costs compared to the others.

The need to meet the demands of customers, reduce operation cost and also maintain a global presence are factors that contribute to the adoption of the internet mode of doing business especially the banking industry which is an industry that is a key player in the use of internet technology for daily business. Transactions such as electronic fund transfer, online currency exchange, online trading and provision of payment platform for businesses are one of the products provided by the banks to entice customers, likewise account balances can be verified both local and domiciliary accounts.

As At 31st December, 2008, 1,974 cases of fraud and forgeries amounting to 24.49billion naira and various other sums in foreign currencies were reported by banks. Seven hundred and forty-six of the cases, amounting to over 6.37billion naira were reported to have been successful. Arising there from, 316 staff of deposit money banks were dismissed and 220 others had their appointment terminated (CBN bank supervision annual report 2008). This compared to the CBN report of 1999 which stated reported fraud cases of 633 in 1999 and a decline in amount involved from 4billion naira to 3.7billion naira, while the actual loss also decreased from 1.3billion naira to N724million (CBN bank supervision annual report 1999). This shows a high movement in fraud cases 10 years after the 1999 report to more than 200%. This is perhaps due to the sophistication in fraud perpetration most of which is through the Internet.

1.1 Statement of the Problem

The impact of technology in this modern day is enormous to organisations and individuals in areas of business and research. It is imminent that Technology aids the prospects of globalisation in which individuals, corporate organisations and countries relate, transact business and promote trade is limitless. The most challenging development in world history today is globalisation. Globalisation is the increased integration of world economies through trade and capital flows, facilitated by the phenomenal growth in information technology and the opening up of closed economies and societies (Ezike, 2009 in Osamor, Akinlabi, Osamor, 2013).

One of such scientific and technological innovation is the use of the internet in our daily affairs. Banks have been key users of the internet especially in Nigeria for more than a decade now, subsequently introducing Online Banking and transfer of funds from one account to the other within or outside of the bank to trade partners or corporate organisations to facilitate trade. The recent CBN cashless policy is also a contributor to these, the need to reduce the influx of customers into banking halls, reduce physical movement of cash, and also compete with other banks is quite essential. This led to banks coming out with different products to outshine other competitors, while also partnering with mobile companies to facilitate ease of mobile banking and voucher top-ups.

Nigerian banks have branches scattered all around Africa and some in Europe and America, establishing a presence in developed countries. The maintenance of the link among all these branches can only be aided with the use of internet which comes with its cost and also the risk posed by internet hackers, virus programmers and Phishers who steal users' passwords and convert the banks' customers' funds to theirs or purchase goods online from the banks' customers' accounts. Udo (2015) reported that Nigerian depositors, banks lose 6.2billion naira to fraudsters in one year in which majority of the cases are related to internet banking and ATM fraud. Regardless of these, Nigerian Banks still post huge profit in their financial reports. This is one of the problems this research work intends to study.

1.2 Aim and Objectives of the Study

The aim of the study is to examine how the use of internet banking has impacted on the performance of banks in Nigeria. The objectives of the study are further highlighted below:

i. Examine the impact of adoption of internet banking on the profitability of Nigerian Banks
ii. Examine the impact of adoption of internet banking on cost of operation of Nigerian Banks.
iii. Examine the impact of internet banking on the level of fraud in the banking sector.
iv. Examine the effect of adoption of internet banking on daily influx of customers to the banking halls.

1.3 Research Questions

In an attempt to establish the relationship that exists between adoption of internet banking and banks performance, the following research questions are imperative:

i. To what extent does the adoption of internet banking impact on the profitability of Nigerian Banks?
ii. To what extent does the adoption of internet banking impact on the cost of banking operations in Nigerian banks?
iii. To what extent has internet banking impacted on the level of fraud in the Nigerian banking sector?
iv. To what extent has internet banking impacted on daily influx of customers to the banking halls?

1.4 Hypotheses of the study

This research study intends to test the following hypotheses:

i. H0: Adoption of Internet Banking has no significant impact on Nigerian Banks' profitability.
ii. H0: Adoption of Internet Banking has no significant impact on the cost of operations on Nigerian Banks.
iii. H0: Internet banking does not have any impact on the level of fraud in the banking sector.
iv. H0: Adoption of Internet Banking has no significant effect on daily influx of customers to the banking halls.

1.5 Significance of the Study

The research study will help in future research in the area of internet banking and also expose students in institutions of learning to the effect of internet on the performance of banks as well as expose other users of this research study to understand how banks can ensure that security measures are in place to safeguard customers finances as well as protect the banks from hackers through examining of previous cases and ways by which they can be safeguarded through an efficient internet security measures.

Also, this research will enable investors or organisations who intend to invest in internet technology to understand the challenges and the benefit of its usage and how internet banking works here in Nigeria, have readily available information on the effect of the adoption of internet banking on the performance of the Nigerian banks while examining relevant literatures that have pointed out to these issues in previous works. Another significance of this research work is that it intends to explore current issues in the internet banking services, review legal provisions by the CBN, and address security challenges faced in the industry and ways to safeguard against external threats from unauthorized third-party users.

1.6 Scope of the Study

Secondary data obtained from the financial reports of the banks (six of them that have consistently retained their brand names and remained quoted on the Nigerian Stock Exchange Since 1997) pre and post internet era out of the 22 commercial banks in Nigeria was examined. Using six banks is to ensure objectivity of the research work because not all the banks we have now were present before the internet banking era as some are in existence today as a result of merger or acquisition and with no long term presence in the banking industry while others that have been in existence back then are no longer in existence.

2. Literature Review

2.1 Historical Development of the Internet

The development of the Internet way back in time was developed for military intelligence, reason being that information sharing from one computer end to the other was quite necessary to aid quick information delivery and usefulness of such information on time as an advantage over the enemies. In the early 1960s, the United States Department of Defense awarded contracts for the development of packet network systems, which includes the development of the ARPANET which became the first network to use the Internet Protocol. The first ever message was tested and sent from computer science professor Leonard Kleinrock's laboratory at University of California, Los Angeles (UCLA) to the second network-node at Stanford Research Institute(SRI) (Wikipedia, 2016). According to national media museum (2011) the origins of the internet are rooted in 1950s in the United States of America. The cold war was at its height and huge tensions existed between North America and the Soviet Union. Both superpowers were in possession of deadly nuclear weapons and people lived in fear of long-range surprise attacks.

The climate of fear within the US was amplified by the shock launch of the Soviet satellite, 'Sputnik1' in 1957. The Sputnik 1 satellite was the first man-made object to orbit the Earth and could circle the planet in just 96 minutes. The Soviet Union's demonstration of its scientific superiority led US President Dwight D. Eisenhower to form the Advanced Research Projects Agency (ARPA) in 1958. ARPA brought together some of the best scientific minds in the country. Their aim was to help

American military technologies stay ahead of its enemies and prevent surprises, such as the Sputnik launch, happening again. The Cold War was fundamental in opening up new funding for groundbreaking research in a wide array of sciences, including nuclear power/weapons, space technology and computers. Computers in the 1950's were large, expensive machines exclusively used by military scientists and university staff. The new machines were powerful but limited in numbers, and researchers grew increasingly frustrated as they required access to the technology but had to travel great distances to use it. At the same time as the formation of ARPA, Paul Baran, an engineer at the American think tank, the RAND Corporation, was asked to research how the US Air Force could keep control of its fleet if a nuclear attack ever did occur. In 1964 Baran proposed a communication network with no central command point. If one point was destroyed, all surviving points would still be able to communicate with each other. He called this a distributed network (national media museum, 2011).

Packet switching networks such as ARPANET, NPL network, CYCLADES, Merit Network, Tymnet and Telenet, were developed in the late 1960s and early 1970s using a variety of communications protocols. Donald (1965) was the first to put theory into practice by designing a packet-switched network at the National physics Laboratory in the UK, the first of its kind in the world and the cornerstone for UK research for almost two decades (David & Yates, 1997). This was a great breakthrough in technology for the first time in history, messages were being sent from one computer to another in a faraway location.

The twentieth Century witnessed a drastic movement from brick and mortar way of banking to a more sophisticated way of banking operation in Nigeria with the use of the Internet.

According to Leiner et al (n.d.) the first recorded description of the social interactions that could be enabled through networking was a series of memos written by J.C.R Licklider of M.I.T in August 1962 discussing his "Galactic Network" concept. He envisioned a globally interconnected set of computers through which everyone could quickly access data and programs from any site. In spirit, the concept was very much like the Internet of today. Licklider was the first head of the computer research program at DARPA, starting in October 1962. While at DARPA he convinced his successors at DARPA, Ivan Sutherland, Bob Taylor, and MIT researcher Lawrence G. Roberts, of the importance of this networking concept.

Leonard Kleinrock at MIT published the first paper on packet switching theory in July 1961 and the first book on the subject in 1964. Kleinrock convinced Roberts of the theoretical feasibility of communications using packets rather than circuits, which was a major step along the path towards computer networking. The other key step was to make the computers talk together. To explore this, in 1965 working with Thomas Merrill, Roberts connected the TX-2 computer in Mass to the Q-32 in California with a low speed dial-up telephone line creating the first (however small) wide-area computer network ever built. The result of this experiment was the realization that the time-shared computers could work well together, running programs and retrieving data as necessary on the remote machine, but that the circuit switched telephone system was totally inadequate for the job. Kleinrock's conviction of the need for packet switching was confirmed (Leiner et al, n.d).

2.2. Theoretical Framework of the Study

The adoption of internet banking is anchored on various theories which emphasize the users' perception of internet banking and how it contributes to the performance of the banking industry. Such theories like the Porter's five factor model, strategy theory, the innovation diffusion theory, theory of financial intermediation and technology acceptance theory are examined.

2.2.1 Porter's Five Forces Theory

According to Grant (2010) the five forces of competition framework has become the best known and most widely applied analytical framework in strategic management. This framework shows how the structure of an industry determines both the intensity of competition within the industry and the level of profitability within that industry.

This theory examines the threat posed by close substitutes and new entrants into the industry. There is a need for organisation to be up to the task in meeting the demands of customers while withstanding the stiff competition posed by other companies in the same industry. The banks need to examine the rivalry available in the industry and to compete favorably to earn more profit; it has to adopt the use of technology to aid its performance while also making processing of transactions quick and affordable.

The five forces theory was introduced by Michael Porter in 1979 with the aim of understanding the factors which examines the need for industries to be more innovative and be aware of its environment to be able to stand stiff competition. Porter's contribution was to take the 'structure-conduct-performance' model of industrial economics previously applied to the analysis of antitrust policies and to transform it into a practical framework for identifying profit opportunities (Grant, 2010). The five forces are bargaining power of suppliers, bargaining power of customers, threat of new entrants, threat of substitutes and rivalry. Porter placed 'Rivalry' in the middle of the diamond which indicates that it all boils down to rivalry in the industry, so looking at the banking industry, the issue of rivalry is a very strong factor for banks to be able to have a hold on their existing customers and also pick from customers of other banks by providing the customers with the best of services while also adopting advanced technology to ease the way banking is being carried out. Such rivalry gave birth to the use of ATM machines for depositing of funds by banks like UBA and GTB who were one of the pioneering banks to introduce such into the banking industry in Nigeria. This increased the rate of profitability and performance of the bank as the number of customers in the banking halls have reduced and bank customers can now bank from the comfort of their homes. This has enabled the Nigerian banks in order to have a wider share of the market to grow beyond the shores of Nigeria with branches around other African countries and some in Europe and in the United States. The Porter's five factor theory highlights the possible threats to the industry and this if not properly handled may affect the profitability of the company. Therefore, banks try as much as possible to be highly competitive while embracing the use of technology and also possess a high bargaining power when it comes to customers and suppliers. They influence the supply decision because of their size by buying in bulk and

paying less and also enticing customers to make use of the various banking platforms which eventually is charged to the accounts of the customer on a weekly or monthly basis such as email messages, SMS alert, internet banking charges etc. The porter's five factor theory can be highlighted with the aid of a diagram.

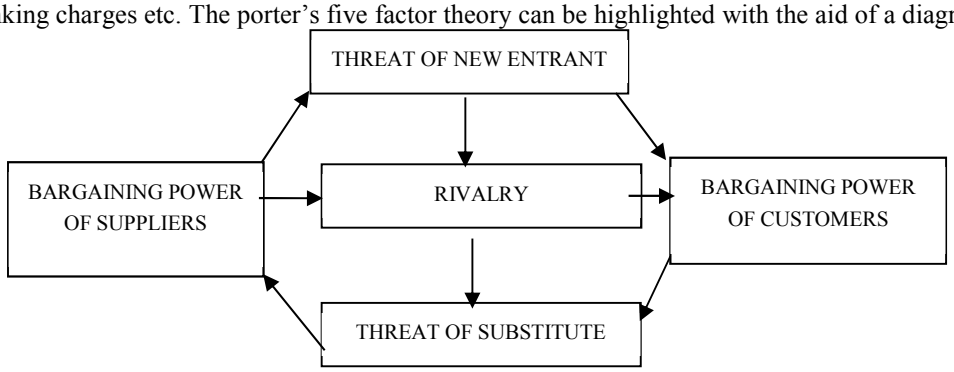

Figure 1. Porter's Five Forces Theory

From the diagram above it can be seen that the industry is filled with rivalry and it is the responsibility of an organisation to withstand the challenges posed by other competitors in terms of service creation and ease in banking and customer satisfaction.

2.2.2 Strategy Theory

For a business to succeed there is the need for strategy. Strategy is a minimum set of decisions (sufficient) to guide all other decisions and derives it as the equilibrium outcome of a game where a person can look ahead, do an overall optimization, and announce or fix decisions at a cost (Steen, 2011).

The banking industry is faced with stiff competition. This as a result led to the need to adopt a unique strategy quite different from that of others in the same industry. One of such strategy was that introduced by United Bank for Africa Plc and most especially Guaranty Trust Bank Plc with the introduction of ATM deposit machine to reduce the rate of crowd in the banking halls as well as make the business of banking interesting and competitive because this was a new development in the history of banking in Nigeria.

It should be noted that strategy involves adequate and effective use of both human and material resources at the disposal of the bank because the success of the orgaisation depends critically on its strategy. Strategy involves being ahead of the competitors in policy implementation and decision making. It is about asking questions as whom? How? Why? and When? All these with the intent of getting to know the preference of the customer, the size of the market, what the people need, how to go about it and meeting of deadlines. A strategically oriented company has the likelihood of performing better compared to an organisation without any form of strategy. The aim of strategy is to get a good end result and meeting the requirement of the various stakeholders in the business from the shareholders, the creditors, the employees and others who have stakes in the company. A strategic decision involves top managers who formulate strategies to aid in achieving the goals of an organisation. The introduction of internet banking is a strategy formulated by top managers down to the operational level in the management cadre to execute the strategy. According to Kangangi (2014) strategic management involves the formulation and implementation of the major goals and initiatives taken by a company's top management on behalf of owners based on consideration of resources and an assessment of the internal and external environments in which the organisation competes.

According to Chamberlain (2010) the strategy theory introduces a specific and coherent interpretation of the strategy construct. Chamberlain argues that it is not possible either to analyze or compare strategies if we cannot clearly describe and categorize what we are looking at. His propositions are summarized as follows:

i. Strategy operates in a bounded domain
ii. A strategy has a single coherent focus
iii. A strategy consists of a basic direction and a broad path
iv. A strategy can be deconstructed into elements
v. Each of the individual components of a strategy's broad path (i.e., each of its essential thrusts) is a single coherent concept directly addressing the delivery of the basic direction
vi. A strategy's essential thrusts each imply a specific channel of influence.
vii. A strategy's constituent elements are each formed either deliberately or emergently.

It shows that developing strategy is an essential of the banks to adopt internet banking which is in consonance with Chamberlain's argument as a specific channel of influence, formed deliberately or emergently to deliver the basic direction and make ease the process of transaction, thereby improving on the performance of the banking sector.

2.2.3 Innovation Diffusion Theory

Innovation is central to the growth of business, it is the stimulus that drives the performance of the industry through the acceptance of the medium through which banking processes are being carried out with the use of

technology. This theory explains individual intention to adopt a technology as a modality to perform a traditional activity; this theory was developed by Roger's (1983). The critical factors that determine the adoption of an innovation at the general level are the following: relative advantage, compatibility, complexity, trialability and observability (Rogers, 1995 in Moga, 2010). Gerrard in Cunningham (2003) in Moga (2010) had tested the theory on the e-banking adoption. The nominalized factors are complexity, triability, and observability (Moga, 2010).

Banks have developed a way to make the business of banking more easy and comfortable for their customers unlike the brick and mortar way of banking with long queues and a lot of paper work without the adoption of technology which makes it more stressful and the process of interbank transactions cumbersome. With the use of sophisticated technology, interbank transaction is easy, it is far safer and convenience to carry out transactions through the use of the internet connected ATM, computers, point of sales machines, Mobile Banking etc. The government has also adopted this medium for its tax payment processes through an online banking platform such as the collection of PAYE, Stamp duties processing, water bills and PHCN bills and other means of government revenues which is easy and speedy to collect and process.

Diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system. Diffusion is a special type of communication concerned with the spread of messages that are perceived as new ideas (Rogers, 1983). This idea is perceived by individuals as new and something brought into the system to aid ease of how people interact in a given society. With each passing day, the development in technology changes the way we see, we think and we relate with one another in the society, these innovations have been able to help make things easier for human like communication, transportation, banking, security etc.

The communication of new ideas is the basis of diffusion of innovations, that is, communication is a process in which participants create and share information with one another in order to reach a mutual understanding (Rogers, 1983). For example due to the way and the complex nature of doing business, the business owners may come up with new innovations to aid their business and also enable the business reach a wider audience, the client may come to the business owner with a problem or need and the business innovation may be recommended as the solution to the problem, like banks introduced internet banking and the use of ATM machines to reduce the banking queue as well as the turnaround time in attending to customers' request. The four main elements of diffusion theory as proposed by Rogers in his work are; the innovation, Communication channels, Time and a social system. Rogers (1983) defined innovation as an idea, practice, or object that is perceived as new by an individual or other unit of adoption. It matters little so far as human behaviour is concerned, whether or not an idea is "objectively" new as measured by the lapse of time since its first use or discovery.

Newness in an innovation need not just involve new knowledge, someone may have known about an innovation for some time but not yet developed a favourable or unfavourable attitude towards it, nor have adopted or rejected it (Rogers, 1983).

In the banking industry, the newness in the creation of technology that aids banking activities have helped tremendously in ensuring ease of banking within and outside of the banking halls. This has ensured sophisticated means of carrying out banking operations with the use of chip cards, mobile phone devices, and the use of Automated Teller Machine to reduce the long queue in the banking halls as well as reduce the waiting time. Time is the third element of the diffusion theory, and this is an important element in the diffusion process. In fact, most other behavioural science research is timeless in the sense that the time dimension is simply ignored. Time is an obvious aspect of any communication process, but most (non-diffusion) communication research does not deal with it explicitly (Rogers, 1983).

Berger (2003) asserts that banks are also significant users of financial technologies that employ economic and statistical models to create and value new securities, estimate return distributions, and make portfolio decisions based on financial data. This makes the banks to fall into the diffusion theory as the use of technological innovation appeals to the customers or the users of banking facilities. Banking transactions are communicated to bank users via, phones, tablet computers, laptops and other electronic mediums connected to the internet. In today's modern world, bank customers can now do their bank transactions right there in the comfort of their homes. Rogers (1983) explained the four main elements in his work diffusion of innovations which are innovation, communication, time, and a social system.

Innovations

According to Rogers (1983) an innovation is an idea, practice, or object that is perceived as new by an individual or other unit of adoption. It matters little, so far as human behaviour is concerned, whether or not an idea is "objectively" new as measured by the lapse of time since its first use or discovery. This innovation has to do with the need for persuasion of individuals to comply and adopt the new changes to their way of life. According to Rogers (1983) he believed that many technologists think that advantageous innovations will sell themselves, that the obvious benefits of a new idea will be widely realized by potential adopters, and that the innovation will

therefore diffuse rapidly. Unfortunately, this is very seldom the case. Most innovations, in fact, diffuse at a surprisingly slow rate. Newness in an innovation need not just involve new knowledge. Someone may have known about an innovation for some time but not yet developed a favourable or unfavourable attitude towards it, nor have adopted or rejected it. The "newness" aspect of an innovation may be expressed in terms of knowledge, persuasion, or a decision to adopt. The adoption of this innovation subsequently helps the banks to be more profitable and increase the rate of performance during the period of operation.

Communication Channels

Communication is the process by which participants create and share information with one another in order to reach a mutual understanding. Diffusion is a particular type of communication in which the information that is exchanged is concerned with new ideas. The essence of the diffusion process is the information exchange by which one individual communicates a new idea to one or several others (Rogers, 1983).

For example mass media channels are often the most rapid and efficient means to inform an audience of potential adopters about the existence of an innovation, that is, to create awareness-knowledge. These days it is common to see banks in Nigeria communicate new developments to customers via E-mail and SMS on customers' mobile phones. Individual customers of the various banks can check their monthly account statement, carry out transactions, and also give feedbacks on their accounts to their respective banks. Though, one of the most distinctive problems in the communication of innovations is that the participants are usually quite heterophilous. A change agent, for instance, is more technically competent than his clients. This difference frequently leads to ineffective communication (Rogers, 1983).

Time

Time is an important element in the diffusion process. In fact, most other behavioural science research is timeless in the sense that the time dimension is simply ignored. Time is an obvious aspect of any communication process, but most (non-diffusion) communication research does not deal with it explicitly. Perhaps it is a fundamental concept that cannot be explained in terms of something more fundamental (Withrow, 1980 in Rogers, 1983). The improvement in science and technology has to do with time, the technology of yesterday can be obsolete tomorrow. New banking technology are being developed over the years to meet the demands of customers and make banking easy and convenient while bringing in profit to the banks. This scenario is similar to the generation of computers as the computer reduces gradually from mainframe to mini and microcomputers and back to mainframe computers. Time is one of the factors that contribute to innovation, the computers of the earlier years make use of vacuum tubes and valves compared to those of today that makes use of microchips as processors.

2.2.4 Theory of Financial Intermediation

Banks are financial intermediaries between parties in a contractual business either to finance projects or as an accepter of funds belonging to its client or customer for safe keeping purposes.

These theories of intermediation have been built on the models of resource allocation based on perfect and complete markets by suggesting that it is frictions such as transaction costs and asymmetric information that are important in understanding intermediation (Allen & Santomero, 1998). Also, according to Bhattarchaya & Thakor (1993) the financial intermediation theory highlights the role of financial intermediaries in economy; most of the studies performed highlight their role in achieving a durable economic growth, and the impact of regulations on financial intermediation, accentuating the role of the central bank in the regulation, supervision and control of financial intermediaries.

The most important contribution of intermediaries is a steady flow of funds from savers to end users. Financial institutions fulfill the following main functions:

i. The brokerage function: financial intermediaries match transactors and provide transaction and other services. As a result, they reduce transaction cost and remove information costs.
ii. The asset transformation functions: Financial institutions issue claims that are far more attractive to savers (in terms of lower monitoring costs, lower liquidity costs and lower price risk) than the claims issued directly by corporations. Financial intermediaries hold the long-term, high risk, large-denomination claims issued by borrowers and finance this by issuing short-term, low risk, small-denomination deposit claims (Bhattacharya & Thakor, 1993).

This theory examines the role of the bank in terms of meeting the needs of the customers, the improvement in science and technology and way of life of the people with the need to have easy access to their funds, be able to bank right from the comfort of their homes, withdraw their funds from ATM machine close-by etc. The bank is an intermediary in providing essential services to its customers to be able to improve on its performance, the demands of the customers must be met as at when required. The question posed by Bhattacharya in his work is that, why do financial intermediaries exist? According to Bhattacharya (1993) Financial Intermediaries reduce the costs of transacting with services ranging from brokerage to attribute transformation and with information asymmetries, both depository and non-depository Financial Intermediaries gain from an increase in size because of a lower incentive costs per agent. To be able to carry out its role as an intermediary, the bank needs to ensure

it puts in place the various tools necessary for ease of doing business as well as improving on the confidence level of the customers; this is why the need to invest in technology comes to play. This technology brings the bank and the customers together most especially the internet, which serves as a medium of information exchange among the bank, the customers and third-parties.

According to Andries (2009) the financial intermediation theory highlights the role of financial intermediaries in economy; most of the studies performed highlight their role in achieving a durable economic growth, and the impact of regulations on financial intermediation, accentuating the role of the central bank in the regulation, supervision and control of financial intermediaries. According to in Financial intermediaries are financial institutions specialized in the activity of buying and selling (at the same time) assets and financial contracts (Benston and Smith, 1976 in Andries, 2009). As their name suggests, financial intermediaries mediate between the providers and users of financial capital. The transfer of funds from agencies with surplus to agencies with deficits through financial intermediaries is also called financial intermediation. The process of financial intermediation is the linking of the debtors with the creditors, securitization of assets and involvement in the financial market for raising capital. This can be shown in a diagram as presented by Andres (2009):

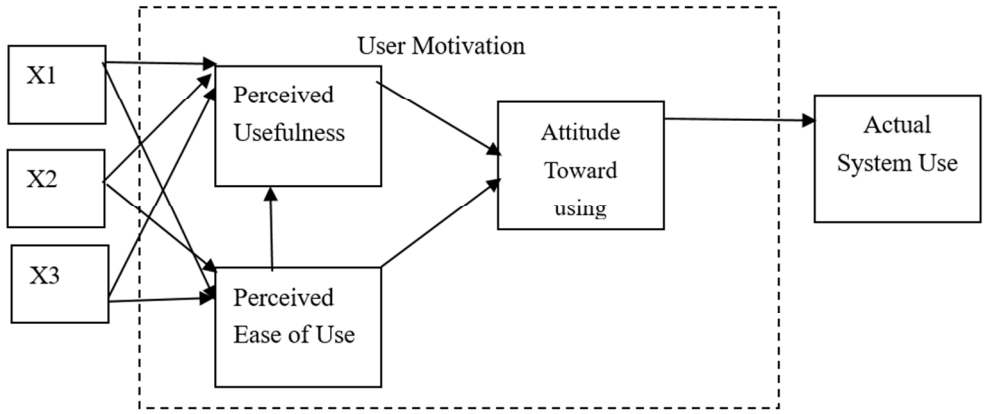

Figure 2: Original Technological Acceptance Model Proposed by Fred Davis

This theory propounded by Davis can be further enumerated or added to examine reasons behind individuals' acceptance of technology which can be as a result of the need to meet some certain technical issues for ease, security and time saving. Though Davis classified User motivation based on Perceived Usefulness and Perceived Ease of Use which can be looked at from the side of the users and the developers of the technology but what we are concerned with is the user. The bank saw that technology is the only way by which the business of banking can be improved upon, bulk transactions can be handled with ease and time can be saved, the customers of the banks also feel at ease with the development and the adoption of technology to the banking sector which reduces the time wasted on queues, disappointments with having to meet up with the closing time of banks on a daily basis and security. Individual owners of bank accounts can now comfortably carry out transactions in the comfort of their homes with the use of the internet banking and this does add to the profit of the banks in the long run and running and administrative cost reduced. Chuttur (2009) mentions that today, research on technology acceptance is still ongoing, and thus an understanding of the assumptions, strengths and limitations of the Technology Acceptance Model is essential for anyone willing to study user acceptance of technology.

The aim of every corporate organization is to maximize profit and minimize cost at the barest minimal, technological adaption helps to achieve this. The TAM helps the bank to study the customers' attitude and response towards change in service creation. This also emphasizes on the need to promote customer loyalty by ensuring that there is a close and cordial relationship between the bank and her customers. Davis, Bagozzi and Warshaw (1989) who are also champions of the Technological Advancement Model posit that computer systems cannot improve organizational performance if they aren't used. They further went ahead to say that to better predict, explain, and increase user acceptance, we need to better understand why people accept or reject computers.

According to Bagozzi and Warshaw (1989) Technological Acceptance Model posits that two particular beliefs, perceived usefulness and perceived ease of use, are of primary relevance for computer acceptance behaviors. Perceived usefulness (U) is defined as the prospective user's subjective probability that using a specific application system will increase his or her job performance within an organizational context. Perceived ease of use (EOU) refers to the degree to which the prospective user expects the target to be free of effort.

Bagozzi et al (1989) also asserts that, the technological Acceptance Model postulates that computer usage is determined by BI, but differs in that BI is viewed as being jointly determined by the person's attitude toward using the system (A) and perceived usefulness (U), with relative weights estimated by regression:

$$BI=A+U$$

This model represented in a linear form depicts the Behavioural Intention to use (BI) to People's Attitude towards Using the System (A) and Perceived Usefulness of the technology adopted (U). If there is a positive attitude to use the technology put in place by the respective banks this would bring about an increase in the users of those making use of the banks' technology thereby resulting to income from charges from the usage of the facilities by the banks thereby contributing to the profit of the various banks. It is observed that banks charge customers for the use of the internet banking platform and the use of ATM cards and mobile banking also comes with its charges. It is observed that these banking innovations drive customers' preferences for banking as the bank with the most convenient and user friendly platform is more preferable to that which is not user friendly, this is one of the reasons for the attitudinal change of the various banks in Nigeria to check such stiff competition present in the banking industry.

2.3 Empirical Review of Previous work in the area of studies

The introduction of technology into banking has been of immense benefit to the industry, moving from 'mortar and brick' mode of banking where customers have to go to their banks especially the branch their accounts are domiciled before they can transact business. Infact, back then, it was difficult to transfer accounts from one branch to another because there was no presence of internet and connection of those branches via the internet was difficult then. Due to the absence of the technology that can take care of this as at then, expansion of Nigerian banks was limited to the country and it was difficult to establish branches outside of the country. Cross-border expansion was limited, the hazard associated with visiting the banking halls was on the increase due to the rise in criminal activities and lives were lost, and it is painstaking to carry out transactions. Alade (n.d.) asserts that, Nigerian banks expanded into other African countries following the 2004 consolidation that increased minimum capital requirements more than tenfold. The recent consolidation exercise in Nigerian banking sector has drawn the attention of many banks to application of various technological devices in promoting/achieving better customer service delivery that guaranteed customer satisfaction that translates into increase profitability and higher return on investment (Ogunlawore and Oladele, 2014). Back in the days when there was nothing like the internet, it was difficult to transfer accounts from one branch to another because there was no presence of internet and connection of those branches via the internet was difficult and not in place. Due to the absence of the technology that can take care of branch networks, expansion of Nigerian banks was limited to the country and it was difficult to establish branches outside of the country. Cross-border expansion was limited, the hazard associated with visiting the banking halls was on the increase due to the rise in criminal activities and lives were lost, and it was painstaking to carry out transactions. Most banks expanded their operations domestically and internationally by increasing branch networks in the domestic market and opening subsidiaries abroad. United Bank for Africa PLC (UBA) and Access Bank combined are operating in more than 20 countries on the continent. Cross-border expansion has taken place through the set-up of subsidiaries, thus adding to the number of banks in host countries.

The history of the internet begins with the development of electronic computers in the 1950s. Initial concept of packet networking originated in several computer science laboratories in the United States, Great Britain, and France. The US Department of Defense awarded contracts as early as the 1960s for packet network systems, including the development of the ARPANET. The first message was sent over the ARPANET from computer science Professor Leonard Kleinrock's laboratory at University of California, Los Angeles (UCLA) to the second network node at Stanford Research Institute (SRI) (Wikipedia.org, 2015). This shows that the Internet developed from the United States as a result of research of the educational institution who needed to communicate with another via the use of the computer with no intent of using it specifically for banking. The change in the way individuals and organisations communicate post-war period of the 1940s saw to the development of telecommunication devices and improvement in technology to aid the way individuals, countries and corporate organisations relate and interact around the globe.

The word Internet Banking is the introduction of the Internet with banking operations; this is to enable ease of work processes and also to build a relationship between the bank and its numerous customers likewise also making it easy for cross-border transactions. The term internet banking refers to the provision of information or services by a bank to its customers, via a computer or television (Allen et al, 2001 in Adeyemi, Ola, and Oyewole, 2014). Internet banking includes the system that enables financial institution, customers, individuals or business to access account, transact business or obtain information on financial product and services through a public or private network including the internet or mobile phone. Thus, customer access electronic banking services using an intelligent electronic devices such as personal computer (PC), personal digital assistant (PDA), automated teller machine (ATM) and touch tone telephone (Olanipekun, Brimah and Ajagbe, 2013 in Adeyemi, Ola, and Oyewole, 2014). Timothy (2012) in Ogunlawore and Oladele (2014) asserts that electronic banking refers to the use of the internet as a remote delivery channel for providing services, such as opening a deposit account, transferring funds among different accounts and electronic bill presentment and payment. Berger (2003) asserts that banks are also significant users of financial technologies that employ economic and statistical models

to create and value new securities, estimate return distributions, and make portfolio decisions based on financial data. This makes the banks to fall into the diffusion theory as the use of technological innovation appeals to the customers or the users of banking facilities. Banking transactions are communicated to bank users via, phones, tablet computers, laptops and other electronic mediums connected to the internet. In today's modern world, bank customers can now do their bank transactions right there in the comfort of their rooms.

Electronic banking involves consumers using the internet to access their bank accounts and to undertake banking transactions. At the basic level, Internet banking can mean the setting up of a web page by a bank to give information about its products and services. At an advanced level, it involves provision of facilities such as accessing accounts, transferring funds and buying financial products or services online (Sameni, Jouzbarkand, khodadadi and Khalili, 2012). Internet banking started with simple functions like real time access to information about interest rate, checking account balances and computing loan eligibility (Khan et al, 2009; Singhal and Padhmanbhan, 2008 in Zimucha, Zanamwe, Chimwayi, Chakwizira, Mapungwana and Maduku, 2012). Internet Banking is the term used for new generations in up-to-the-minute banking system which is also named as online banking or electronic banking and it is an outgrowth of computer and mobile banking. This type of banking utilizes the internet as the delivery channels by which to carry out banking activities globally and nationally, viz. transferring electronic funds, paying bills, viewing checking and savings account balances, paying mortgages and purchasing financial instruments, certificate of deposits (Miah, 2013). All these transactions aided by internet banking are susceptible to threats from third party individuals who have made it a reputation to cause nuisance by stealing bank customers' information and depriving them of their finance. Zimucha, Zanamwe, Chimwayi, Chakwizira, Mapungwana and Maduku (2012) Asserts that it is clear that as banks expand into internet banking, there is need to focus greater attention to fail-safe security arrangements and systems to safeguard against security threats. According to Cooper (1997) and Daniel (1999) in Zimucha, Zanamwe, Chimwayi, Chakwizira, Mapungwana and Maduku (2012) posits that the level of security or risk associated with adoption of e-banking is a major factor affecting the acceptance and adoption of it. Miah (2013) posits that in order to grow consumer internet banking demand, banks must make key enhancements that address customer concerns. Thus it would behoove financial institutions to gain an understanding of the key factors that influence consumer internet banking adoption.

Even in countries where electronic banking has long been established, one of the most important factors slowing progress of this new innovation is the consumers' concern for security of financial transactions over the internet and electronic means. In a study by BITS (2003) in Zimucha et al (2012), it was established that there are three common forms of internet banking fraud namely identity theft, friendly fraud or fraud committed by a trusted relative or friend and internal fraud which is perpetrated by a financial institution employee. The issue of internet scam is a global threat facing the banking industry and individual users of the banks who are susceptible to various form of online threats, this therefore brings about the need for the banks to protect its information and as well safeguard their customers' funds. This issue of insecurity has caused the banks a fortune over the years and the need to be cautious with customer details is quite essential. This gives rise to questions on the effectiveness of the internet banking services adopted by the various banks.

Malhotra and Singh (2009) asserts that the wide spread availability of internet banking is expected to affect the mixture of financial services produced by banks, the manner in which banks produce these services and the resulting financial performances of these banks. Whether or not this extreme view proves correct and whether banks take advantage of this new technology will depend on their assessment of the profitability of such a delivery system for their services. The challenges confronting e-banking in Nigeria which can be classified into three and they are the human, operational, and technical constraint. The human constraints include insecurity of funds transferred, frauds and standardization of channels. The technical constraints are centered on the lack of supporting infrastructures such as erratic electricity supply, interdependence and lack of encryption on short message system (SMS) messages. The question remains, inspite of these challenges faced by the Nigerian Banks, how have they been able to survive and report profits during the financial year end?

According to Yang, Whitefield, and Bhanot (2005) in Abaenewe, Ogbulu, and Ndugbu (2013) Electronic banking helps the banks to speed up their retail and wholesale banking services. The banking industry believes that by adopting the new technology e-banking, the banks will be able to improve customer service level and tie their customers closer to the bank. This requires a huge investment on the part of the banks in meeting the demands of the customers. This investment comprises of capital assets which could eat deeply into shareholders' funds and the profit made by the bank thereby leading to non-declaration of dividends on the part of the banks at times as there is need to retain the funds to be reinvested into the banks. One of such investments is the investment in internet banking software which can be built in-house or procured from an IT specialist vendor. According to Abaenewe et al (2013) the banking software is usually improved on short term basis causing huge financial costs to the banks. To the capital providers, they expect that there would be tremendous returns accruing from the project if information driven technology (e-banking) is adopted. This investment is driven by the need to move in line with global trend in banking compared to that of developed nations who are more

sophisticated in their business practices compared to that of developing countries like Nigeria. New development in technology has been helpful to the banking industry in ensuring growth, quick processing of transaction and quick communication between the bank and her customers. According to Abaenewe et al (2013), in the past few years, banking activities in Nigeria have increasingly depended on the deployment of information and communication technology. Customers' insatiable appetite for efficient services has compelled financial institutions to fast track to a more radical transformation of their business systems and models for embracing e-banking. The advent of information communication technology in which internet connectivity is an offshoot of has brought about a reform in the banking industry over the years after the mergers of banks in 2004 in Nigeria. It helps in stimulating economic growth by directing funds to economic agents that need them for productive activities. This function is very vital for any economy that intends to experience meaningful growth because it makes arrangements that bring borrowers and lenders of financial resource together and more efficiently too than if they had to relate directly with one another (Adam,1998; Ojo, 2007 in Osabuohien, 2008).

The role of ICT in internet banking cannot be underestimated as the development of technology has helped to improve the sophistication by which banking business is being carried out. The internet relies on some hardware built to handle the inter connectivity of computers through a remote means like the modulator-demodulator known as modems, the transfer of radio signals, building of computer servers that can handle various client computers and also long range masts with cables and dishes hung on them to ensure strength in the flow of signals from one remote end to the other. According to Abanewe et al (2013) the introduction of these electronic devices has increased competition in the industry which has gone a long way to reducing customers' waiting time for banking transaction. This innovation is brought in by the use of computers and other networking gadgets. In Nigeria, the networking started with the LAN (Local Area Network) MAN (Metropolitan Area Network) and subsequently the WAN (Wider Area Network). Technological advancement facilitates payments and creates convenient alternatives to cash and cheque for making transactions. Such new practices have led to the development of a truly global, seamless and Internet enabled 24-hour business of banking. Technological advance in payments are important due to the fact that it will be feasible to outsource quite a number of the bank's role in the payments system (Osabuohien, 2008). The banking transaction becomes easy after the introduction of computers in banking sector. The banks are enabled to automate the accounting process and back office function like maintenance of deposits, calculation of interest and maintenance of general ledgers. The automation of front office function improves the customer service with reduction in processing time, hence improving the overall performance of Nigeria banks (Osabuohien, 2008). The internet banking has also aided the performance of other businesses, as the use of bank internet platform has been of tremendous support to other businesses. Robert (2005) asserts that; as the internet becomes more important for commerce, internet web sites are playing a more central role in most companies' business plans. An especially elegant case has been made for the "Internet-Only" business model in the banking industry. Overhead expenses can be reduced by jettisoning physical branch offices. Banks can use the resulting savings to reduce their loan interest rates or increase their deposit interest rates, attracting new customers without sacrificing earnings. According to Akhisar, Tunay, and Tunay (2015) technology-based products give opportunities to have a significant cost advantages, increasing profitability and facilitate lower risk than traditional banking products. In addition, studies show that if there is enough customer demands the technology-based products of the bank there will be the return of investment on this field in short time. He further went on that empirical studies made on various countries, reveals that electronic banking services improve the performance of banks. However, the expected result is not seen in some less developed and developing countries because of infrastructure investment could not do enough and customers prefer traditional branch-based banking. It is a recent trend in the banking world to have just internet based banking to aid businesses especially through the e-commerce channel provided by the various commercial banks. This will bring about increase liquidity and patronization of the banks by business men and foreign investors thereby bringing in foreign exchanges to the country.

According to Ubi (2012) as the economy of Nigeria is picking up in the service industry especially the banking industry especially with the introduction of the cashless economy by the Central Bank of Nigeria, electronic commerce will be the avenue of offering this fast, flexible, and cost effective ways of doing business and these will enhance their competitive edge coupled with the bank's branch network. With this development it is expected that the use of the internet would easily facilitate the adoption of e-commerce in the Nigeria banking sectors. The introduction of information communication technology and the emergence of the internet right from 1999 till present have changed the way business is being done and information is readily available to individuals and corporate bodies and communication is promoted across borders. It is not new to see the banks today to have in place on their internet web pages that links customers with traders and online malls, individual users of the banks can now access the various online trading platforms and shopping sites while making use of their online accounts and their Naira and Dollar MasterCard to facilitate payments. Foreign earnings from investment can also be paid to the investors' accounts and banks collect their fees for providing or making the service readily available when individuals receive or make payments. This provides access to the global market and economies

of scale with influx of investors into the country and huge capital businesses being financed by the banks thereby bringing about an increase in the capital base of the banks as well as the profitability of the banks. According to Adeyemi et al (2014) the advancement in technology has played an important role in improving service delivery standards in the Banking Industry. In its simplest form, Automated Teller Machines (ATMs), Point of Sale Terminals (POS) and deposit machines now allow consumers carry out banking transactions beyond banking hours and these have enhanced customers' satisfaction globally, Nigeria inclusive. Banks with higher levels of quality of service will have higher levels of customer satisfaction as an introduction for achieving sustainable competitive advantage.

The banks have to meet its operational cost and maximize profits and make available the parts of the profit to the shareholders in the form of a dividend. There is the need to explore readily available means or opportunities provided by the global market as well as Foreign Direct Investments (FDI) coming into the country while trying as much as possible to make readily available funds for investment purposes. The internet provides the means through which individuals and corporate bodies can come in close contact and promote their trade. At times the bank serves as a third party financial intermediary between parties to a contract who are willing to promote their businesses.

According to Ani, Ugwunta, Ezeudu & Ugwuanyi (2012), a profitable banking sector is better able to withstand negative shocks and contribute to the stability of the financial system. This has led the banks to invest more in technology which is capital intensive in nature for easy accessibility to all the branches scattered within and outside of Nigeria. Banks must ensure maintenance of high liquidity against the amount standing as loans borrowed to individuals and corporate entities; this is to enable the banks to make readily available funds to meet the request of their numerous customers. New developments and ideas are coming up on how best to make use of the internet to generate income by the banks, this have brought about the partnership between the banks and telecommunication carriers in which customers can check their account balance, buy airtimes, transfer money and receive money. The internet has given room for further expansion of banks across borders which are linked to the other and to the central head office of the banks where information is passed and feedback received. Anitha, Saranya and Vasantha (2013) assert that without information technology and communication we cannot think about the success of a banking sector. This explains the relevance of the usage of technology in the banking sector as it helps to aid the performance of daily banking operation. Also, the advancement in Technology has played an important role in improving service delivery in the banking Industry (Adeyemi et al, 2014). According to Rupa (2004) for customers, the internet offers faster access, is more convenient and available around the clock irrespective of the customer's location. For banks, it is a much more efficient and cost saving channel.

Sundas, Fu and Kaleem (2014) assert that one of the foremost welfare of the electronic payment contrivance is to improve the rapidity of transporting payment between parties who are undertaking business. Carrying out online internet banking involves the use of technology like the use of chips and cards via the various electronic channels. Sundas et al (2014) observes that the impact of debit card usage on the profitability of Pakistan banking sector is unique on the basis of providing the answer on product specific (debit card) criteria. The use of the various devices comes with its risks, following the aspiration of Pakistan banking sector under the supervision of state Bank of Pakistan to invest heavy resources for introducing internet banking which in itself incorporates risks such as strategic risk, reputational risk, legal risk, and operational risk because banks let the external world to in its system (Sundas, Fu, and Rashid, 2014). A country like Nigeria classified as a developing country faces great challenges in the use of internet banking relative to cost, the problem of eccentric power supply, poor regulation, government policies, Internet fraudsters, expensive cost of hardware, illiteracy in the usage of the internet banking products etc. United Nations Conference on Trade and Development (UNCTAD) report identified four challenges that developing countries, in general, are expected to overcome to achieve the advantages that e-banking initiatives can bring about (UNCTAD, 2002):

i. The ability to adopt global technology to local requirements: An adequate level of infrastructure and human capacity building is required before developing countries can adopt the global technology for their local requirements. For example, the review of the migration plan of Society for Worldwide Interbank Financial Telecommunications (SWIFT) to the internet shows that to date full migration has not occurred in many developing countries due to the lack of adequate infrastructure, working capital, and required technical expertise. Broadly accepted e-payment systems are another such example. Many corporate and consumers in some developing countries either do not trust or do not have access to the necessary infrastructure to be able to process e-payments.
ii. The ability to strengthen public support for e-finance: Historically, most e-finance initiatives in developing countries have been the result of cooperative efforts between the private and public sectors. For example, Singapore's successful TradeNet system was a government-sponsored project. If the public sector does not have the necessary means to implement the projects it is essential that cooperative efforts between public and private sectors, along with the multilateral agencies like the

World Bank, be developed to facilitate public support for e-finance related initiatives.

iii. The ability to create a necessary level of regulatory and institutional frameworks: The lack of regulatory frameworks, trust, security and privacy standards, high trade barriers, customer and investor protections impede progress in implementing e-banking initiatives on a larger scale in many developing countries.

iv. The ability to mainstream small and medium scale enterprises (SMEs) towards e-banking: The availability of and access to quality data and banking information is required for SMEs in developing countries to move towards e-banking. Similarly, on-line credit information will enhance SME's ability to secure financing.

The use of the internet banking comes with a price, that is, the user has to have a good computer system, a laptop or a data enabled mobile phone with the required subscription payment to be able to be able to make use of the internet. The inability of individuals to be able to meet the cost of the data payment could reduce the usage of such internet banking platforms provided by the banks. Internet banking can be carried out via the phone and computers and other digital devices readily available, and there seems to be a sort of joint demand as the higher the owners of mobile phones and computers, the higher the number of users willing to subscribe to internet banking in the country. Look at the case of India, first, in India, there is a risk of emergence of 'a digital divide' as the poor are excluded from the use of the internet and so from the financial system. Empirical evidence shows that richer countries possess higher concentrations of internet users (higher than income concentration) in comparison with poorer countries (Hawkins, 2002 in Rupa, 2004).

The banks have been victims of fraudsters most especially through the use of the internet. As at 12th of March, 2016 the Central Bank of Nigeria reported that it was able to foil an attack by fraudsters trying to dupe it of the sum of $200,000. Nigerian banks have been subject of attack over the years and this have not hindered the bank from carrying on internet banking as measures are being put in place as the way by which the fraudsters grow more sophisticated. According to Yang (1997) In August of 1995, Citibank had problems with outsiders breaking into their system. A $10million computer fraud against Citibank was the first successful penetration by a hacker into the system which transferred trillions of dollars a day around the world. Of the $10million dollars illegally transferred, $400,000 was not found. Also, in August 2000, British Police have arrested three men in connection with an attempt to defraud the internet bank. The bank was reportedly the target of an effort to obtain money via fraudulent accounts but no money was stolen and Egg stressed that none of his computer systems had been breached. According to the BBC, fraudsters had attempted to obtain thousands of pounds (GBP) via multiple savings accounts and loans. The three men are allegedly part of an organized crime syndicate (Internet Business News, 2000, in Amtul, 2011). According to Loek (2011) in his thesis he stated that ever since the birth of the internet, people have been using it more and more for accomplishing their daily tasks. One popular applications of the World Wide Web is online banking, a practice which is especially popular in The Netherlands, the United States of America, United Kingdom, Japan and some other notable developed nations.

Online banking however is not without its risks: criminals have armed themselves with in-depth technical and even psychological knowledge in order to gain access to banking accounts of unsuspecting users. Online Web Banking Fraud is the case of cybercrime where the main goal of the activity is financial gain for the perpetrator through fraud, where a retail bank is involved and where IT infrastructure is used as the object or tool to achieve the fraud and where the web browser's involvement is material (Loek, 2011). These threats can be guided against with the apex body the Central Bank of Nigeria formulating policies on how best to safeguard the banks and her customers, continuous sensitization of users of the internet banking platforms on how to safeguard their bank details and protect their passwords or develop strong password usage and regular change of their passwords.

Olasanmi (2010) posits that essentially, computers and the internet in banks facilitate records of customers' transactions and transfer of monetary values. With the computer and internet facilities put in place, customers communicate directly with their banks to pay bills, transfer funds, inquire about account balances, and perform all sorts of services offered by such banks. This development is extremely profitable to all. Organizations employing computers and the internet to improve business processes should not ignore the fact that it also improves efficiency both for the company and the criminally minded.

Loek (2011) identified two concepts through which threats are being unleashed by cyber criminals; one is the Technological online web banking threat and Social online web banking threat; the former being a threat which is based on a technological weakness, with or without the help of a social component. A technological threat is also known as a security exploit and the latter being a threat which is based on a social weakness, with or without the help of a technological component. This does not, however, require the involvement of multiple humans as the title might suggest. A social threat may also be known as a human or organizational threat.

It is pertinent for banks to ensure effective cyber security and ensure that the right devices are in place to protect against criminals who commit internet fraud on a larger scale. Also, all the relevant regulatory authorities must ensure that individuals caught in the act are properly dealt with and not granted bail so as to make people understand that it is a grievous offence to carry out cyber crime. In August 2003, the Central Bank of Nigeria

published a document known as the "guidelines on electronic banking in Nigeria" for as at this period, the CBN recognizes that electronic banking and payment services are still at the early stages of development in Nigeria (CBN, 2003). The CBN Technical Committee on E-Banking has produced a report which anticipates the likely impact of the movement towards electronic banking and payments on the achievement of CBN's core objectives (CBN, 2003). The following recommendations were made by the committee:

i. Information and Communication Technology (ICT) standards, to address issues relating to technology solutions deployed, and ensure that they meet the needs of consumers, the economy and international best practice in the areas of communication, hardware, software and security.
ii. Monetary Policy, to address issues relating to how increased usage of the internet banking and electronic payments delivery channels would affect the achievement of CBN's monetary policy objectives.
iii. Legal guidelines to address issues on banking regulations and consumer rights protection.
iv. Regulatory and supervisory, to address issues that, though peculiar to payments system in general, may be amplified by the use of electronic media.

This guideline is expected to provide a framework as to ensure how the way electronic banking in Nigeria meets international best practices as well as ensure security of the users of the e-banking channels by ensuring that policies are in place to guide and prosecute offenders. One of the provisions of the guidelines as to the use of computer networks and internet is that networks used for transmission of financial data must be demonstrated to meet the requirements specified for data confidentiality and integrity. Also, banks are required to deploy a proxy type firewall to prevent a direct connection between the banks back end systems and the internet. It is also stated in the guideline that banks are required to ensure that the implementation of the firewalls addresses the security concerns for which they are deployed etc. On issues relating to internet banking, the Central Bank of Nigeria provided that:

i. Only authorized staff should be allowed to update or change information on the website.
ii. Updates of critical information should be subjected to dual verification (e.g. interest rates).
iii. Web site information and links to other web sites should be verified for accuracy and functionality
iv. Management should implement procedures to verify the accuracy and content of any financial planning software, calculators, and other interactive programs available to customers on an internet web site or other electronic banking services.
v. Links to external web sites should include a disclaimer that the customer is leaving the bank's site and provide appropriate disclosures such as noting the extent, if any, of the bank's liability for transactions or information provided at other sites.
vi. Banks must ensure that the Internet Service Provider (ISP) has implemented a firewall to protect the bank's web site where outsourced etc.

The Central Bank of Nigeria have not been able to ensure a total compliance of all that has been stated in its guideline over the years and also sanction of banks that fail to ensure maximum compliance as well as ensure that individuals and corporate organisations are punished accordingly. It is so sad that the apex bank have not been doing so much in the area of regulation and compliance especially on matters that has to do with internet banking, fraud is still being perpetrated on a large scale and those who commit such heinous crime are still on the loose or at large enjoying the proceed of their crimes. Some individuals like the politically disposed persons (pdp) who have been using their influences to carry out financial crimes like the case of money laundering through bank's internet platform are not being prosecuted because they wield so much influence, we only hear about the case but no one is being prosecuted. Recently, an individual attempted to dupe the apex bank in February 2016 to the sum of $200,000 but this threat was quickly foiled as the suspect was almost successful in defrauding the Central Bank of Nigeria and the security agents were quick to apprehend him.

It is the responsibility of the bank to have in place security policies which is to be duly approved by the Board of Directors. Rajpreet and Ravinder (2013) assert that online banking has become increasingly important to the profitability of financial institutions as well as adding convenience for their customers. According to Ahmad and Mahmood (2013) their finding shows that beyond technology, there are other factors that need to be considered such as internal controls, customer education and staff education etc. These findings will help assist banks and regulators with information on specific areas that should be addressed to build on their existing fraud prevention systems as it should be noted that security concerns are of great importance in the adoption of internet banking services.

More recently, there has been some improvement in preventing fraud over electronic banking mediums. Financial Fraud Action, 2011 reported that in the UK, fraud losses on credit/debit cards were at a 10 year low while online banking fraud losses fell by 24%. This has been attributed to improved e-banking security through both technological and non-technological approaches (Ahmad & Mahmood, 2013). In spite of the threats, new measures are being put in place to curtail it, such as the introduction of Biometric Authentication, Fraud Prevention Software, One Time Passwords, Smart Card Authentication, Password, Multi Layer Passwords etc.

Inspite of all the challenges, the banks have learnt to survive the challenges and work harder to ensure things are in place to safeguard the interest of all stakeholders of the respective commercial banks.

According to Osabuohien (2008) the use of ICT in the banking sector became of interest to this study due to the significant role it plays in the economy. It helps in stimulating economic growth by directing funds to economic agents that need them for productive activities. More interestingly, almost all the banks in Nigeria have internet and on-line real time banking facilities which has improved the scope of Nigerian banking. It has aided transfer of funds from one location to another without any involvement of facial transactions thereby reducing the incidence of loss of funds to stealing and the likes. Another recent one is the telephone banking technology that allows customers to have transactions on their accounts by calling a particular telephone number, through voice activation, and using a tone pad. All of these improve the comfort of banking transactions (Osabuohien, 2008). The internet has helped Nigerian banks to expand across the globe with branches spread across Africa, Europe and the United States. Branches can now be linked across borders and the office at the centre can easily monitor the affairs of its branches in other parts of the world real time online. Customers of the banks can make transfers from Nigeria to their family members in other parts of the world or even make flight booking via the internet banking platforms when planning their holidays. The way banking is being carried on these days has improved tremendously with the support of the internet and emails can be forwarded and feedbacks received from customers immediately as to their banking transactions.

The creation of huge expansion of banks and connecting them with the aid of the internet has helped to increase the asset size of the banks with new branches springing up almost on a monthly basis. The internet devices implored in the bank corporate head office and branches are item of asset in nature just like building, plant and equipment and machine are items of asset to the banks. These technology devices have a life span and can also be depreciated over their useful life. But if the assets are not put into effective use, it may not bring about the required profit as items which are asset in nature are basically idle. Ani et al (2012) in their study explained that higher total assets may not necessarily lead to higher profits. It should be noted that it has also helped to aid globalization by linking countries, peoples and companies together thereby making it easy for companies to promote their trade in which they enjoy a comparative advantage over others.

According to Osamor et al (2013) many socialists define globalisation as a primarily economic phenomenon which involves increasing interaction and integration of national economic systems. This leads in turn to growth in international trade, investment and capital flows. Moreover, there is a rapid increase in cross-border social, cultural and technological exchanges because of the phenomenon of globalisation. According to Alade (n.d.) most countries have welcomed the expansion of Nigerian banks in their jurisdictions, as they are helping to deepen the banking sector on the continent through branch network expansion, the introduction of new financial products and the strengthening of the regulatory and supervision framework through the introduction of consolidated supervision framework through the introduction of consolidated supervision and joint supervision of bank branches, which have helped to affect knowledge and information sharing among supervisors.

It should be noted that the spread of the banks across the globe has been effective with the aid of the internet. This has enabled Banks like the United Bank for Africa Plc to expand to countries like Benin, Ghana, Tanzania,Zambia, Kenya, Liberia, Congo, Mali, Cameroon, Uganda etc and also outside of Africa with offices in NewYork, London, and France. Also, banks like GTB, Zenith Bank, Diamond Bank, First Bank all have branches across Africa. According to Goldberg (2009) moreover, the form of banking globalization is evolving, moving away from a system with primarily cross-border flows to a system with both cross-border transactions and more internationally diversified ownership of banks. Other types of international transactions also have been growing, including the transactions extended by the branches and subsidiaries of parent banks that are located in host country markets, derivative use, and other forms of international investments made by banks. This phenomenon brought by globalization has made individuals and corporate entities to embrace the internet in reaching out to their respective customers as well as doing businesses. This therefore means the more the acceptance of the use of the internet the increase in usage of the banks' internet banking platform in doing businesses.

According to Nath, Schrick and Parzinger (2001) increasingly firms are turning to the internet and related information technologies to improve business efficiency and service quality, and attracting new customers. The use of the internet in the conduct of business is growing at a rapid space. Further to the Central Bank of Nigeria's introduction of Universal Banking in 2001, this gave room for the involvement of banks in a vast area of banking, insurance and real estate businesses. According to Osuagwu (2014) the implication of this is that both commercial and merchant banks are referred to as Deposit Money Banks (DBM) and they are to operate on a level playing field.

Further policy development by the Central Bank of Nigeria paved way for the establishment of bank branches across the nation thereby, bringing about the need to link the branches together with the central office where policy is being formulated and decisions made. This has led to the increase in the asset of the banks within

and outside of the shores of Nigeria, installing the internet devices which is a form of asset to the bank as it comes with a cost in installing and procurement across the branches and its head office, the need to employ expertise who make up the Information Technology department of the banks and with foreign expatriates to provide training and consulting on managing the devices and ensuring proper and efficient performance of the internet hardware components and software. Most banks today in Nigeria are supporting e-commerce through their internet platforms, naira accounts can be used to transact dollar businesses and alert sent to the customer showing payment authorization and the receipt of the money by the seller in their respective countries of domiciliation. The internet banking also supports, Business to Business (B2B), Business to Customer (B2C), Customer to Customer (C2C) etc. This is made possible with the aid of the internet banking platform which is being integrated into the business, with just a click of the mouse and selection of mode of payment, transactions can easily be effected. According to Nath et al (2001) even in the well-established business of banking, a revolution of sorts has taken the industry on a new dynamic path in the last few years. This path has been forged partially due to the growing acceptance of Internet Banking. Nath et al (2001) identified some benefits of Internet Banking to bank which are loyal customers, creation of additional services, Internet profit generation, and enrolment of high-profit customer. He also identified some benefits of internet banking to customers which are: cost savings, access to additional services, convenient one-stop shopping, security and privacy, access to paper money etc.

Internet banking has also moved to what is being referred to as virtual banking where the bank has no physical presence but only available online real time. This type of virtual banks is growing rapidly in developed countries like the United States of America and in the UK. This internet banking only banks with no physical presence incurs zero cost on physical premises or administrative cost as businesses are done virtually online. According to Cho and Park (2012) recently internet banks have been increasingly concerned about the various aspects-the extension of internet banking service, the expensive efficiency, and the service differentiation. George (2002) posits that the internet enables investment banks to expand their capacity in managing client relationships by reaching a wider clientele base and offering research as well as transaction related services. They went further to say that the way leading banks are currently trying to offer internet capabilities to their clients is either through single provider or joint venture systems. With respect to content and type of capabilities, these systems may offer only research, data retrieval, and processing, and information exchange capabilities or may also include deal execution capabilities by supporting systems for trading or placing new issues. It shows that this will create expansion of the banks and ensure a possible increase in their asset portfolio. Internet banking allows customers of a financial institution to conduct financial transactions on a secure website operated by the institution, which can be a retail or virtual bank, credit union or "building society" (Lawal, Ibitola and Longe, 2013).

According to Lawal et al (2013) customers on the internet banking platform can do balance enquiry, check transaction details, make payments and transfer fund from their bank account to any other bank in Nigeria through the Nigerian Inter-Bank Settlement Systems' (NIBSS),Nigeria Electronic Fund Transfer (NEFT). Transfers are authenticated through a token which is either paid for in some banks or given out free of charge by others. This token generates a onetime password which is known and accessed by the owner of the account during the process of carrying out online banking transaction via the internet. According to Furst, Lang and Nolle (2000) among the reasons for Internet banking audience are the notion that electronic banking and payments will grow rapidly, more or less in tandem with proliferating electronic commerce; industry projections that internet banking will cut costs, increase bank revenue growth, and make banking more convenient for customers; and some vexing public policy. Furst et al (2002) in Minwer, Mahmoud and Mohammad (2013) also examined the determinants of internet banking adoption and observed that more profitable banks adopt internet banking after 1998. According to Muhammad and Gatawa (2013) in their analysis it was observed that the results suggests that IT improvements, associated with extensive office networks and range of offered services have helped to generate additional revenue for banks.

3.0 Research Methods

3.1 Research Design

This research design makes use of both primary and secondary data with the use of questionnaire for gathering of primary data.

This research examined the effect of adoption of internet banking on performance in the Nigerian banking industry. This research is structured to examine the way by which the adoption of internet banking has impacted on the profitability, cost, level of fraud as well as influx of customers of the banks in Nigeria. Six banks were selected from a population of twenty-two banks we currently have in Nigeria and their financial reports were reviewed to understand the pre (1997-2004) and post (2005-2015) internet banking effect on the performance of the banks. A well-structured questionnaire was designed for gathering of primary data from the respective customers as well as staff of the selected banks from the population. A Likert Scale of 1 to 5 i.e. Agree, Strongly

Agree, Undecided, Disagree, Strongly Disagree was adopted on the questions for measurement purpose.

Ratio analysis was used on the secondary data, both profitability and liquidity ratios of the selected banks was looked at and some of the ratios which are Returns on Liabilities, the Return on Asset (ROA), Return on Equity (ROE), and Return on Capital Employed (ROCE), Total Asset to Total Liabilities ratio. This gives room for comparison between the pre and post internet era. For the primary data analysis, both the descriptive and the inferential statistical analysis were implored, with the use of frequency tables for the demographic data, the use of Co-efficient of Correlation, Analysis of Variance, mean, mode and standard deviation of the distribution was examined and a conclusion reached to test the hypothesis to be accepted or rejected. This statistical analysis was done with the aid of IBM Statistical Packages for Social Sciences (SPSS) version 20.

3.2 Population of the study

Population according to Kothari (2004) is all the items under consideration in any field of enquiry. The population of this research study consists of all banks in Nigeria with head-offices in Lagos. The population consists of 22 banks in Nigeria as recognized by the Central Bank of Nigeria as at 2016 and also based on the internet ranking as presented by Alexia.org with long term presence in the country. The banks examined are all commercial banks in Nigeria with online presence all physically located in Lagos state.

3.3 Sampling, Procedure and Sample size

The sample is a sub-set of the population from which the result is being generalised. The sample consists of part of the whole to be selected in reaching a conclusion. Based on this research the sample examined consists of 6 commercial banks out of the 21 commercial banks including SunTrust Bank making it 22 currently in Nigeria. The six banks were selected based on their presence pre and post internet banking era. Out of 89 commercial banks present before the merger and acquisition period only 22 banks are left as some have wound-up and some have been taken over by other banks. Also, the customers of the selected banks were sampled, while 156 respondents which comprises of staff and customers of the banks were examined. Here, purposive and convenience sampling technique was adopted due to the nature of this research work. In purposive sampling, Kothari (2004) asserts that in this type sampling, items of the sample selected deliberately by the researcher; his choice concerning the items remains supreme. In order words, under non-probability sampling the organiser of the inquiry purposively choose the particular units of the universe for constituting a sample on the basis that the small mass that they so select out of a huge one will be typical or representative of the whole.

3.4 Data Collection Instrument

The data collection instrument used in this research work consist of both figures extracted from the financial reports of the banks used in this research (UBA, Zenith, Diamond Bank, Union Bank, GTB, First Bank) and a well structured questionnaire was used to gather data from various respondents who are majorly customers and staff of the banks examined.

The questionnaire was divided into five (5) sections of Section A, B, C, D and E, where Section A comprises of Demographic data with eleven (11) questions, while sections B, C, D and E are in the form of Likert Scale of 5-points as 5=Strongly Agree(SA), 4=Agree(A), 3=Undecided(U), 2=Disagree(D) and 1=Strongly Disagree(SD). Section B examines the impact of adoption of internet banking on daily influx of customers to the banking halls and it comprises of ten(10) questions, Section C examines the impact of internet banking on the level of fraud in the banking sector and it consists of ten (10) questions in all, Section D examines the impact of internet banking on the profitability of Nigerian banks and this consists of ten (10) questions and finally, Section E examines the impact of adoption of internet banking on the cost of operation on Nigerian Banks consisting of ten(10) questions.

Table 3.1 Subscale, Sections and Numbers

S/N	Sub-Scale	Sections	Number of Items	Question Numbers
1	Customer Influx to the banking halls	B	10	12-21
2	Impact of Internet Banking on fraud level	C	10	22-31
3	Impact of Internet Banking on Profitability of Nigerian banks	D	10	32-41
4	Impact of internet banking on operational cost	E	10	42-51

Source: Field Survey, 2016

3.5 Validity and Reliability of Research Instrument

According to Kothari (2004) for a good research, the validity and reliability of the data should be checked carefully. He further went ahead to define validity as, the most critical criterion and indicates the degree to which an instrument measures what it is supposed to measure. Validity can also be thought of as utility (Kothari, 2004).

The test of reliability is another important test of sound measurement. A measuring instrument is reliable if it provides consistent results (Kothari, 2004). The present research study has ensured both validity and reliability of the measuring instrument by ensuring proper structuring. This study makes use of the Cronbach's alpha to test the reliability of the study. The rule of thumb provided by George & Mallery (2003) in Gliem & Gliem (2003) is that >.9-Excellent, >.8-Good, >.7-Acceptable, >.6-Questionable, >.5-Poor and <.5-Unacceptable. Cronbach's Alpha test was carried out to test reliability of the survey questionnaire administered on 5 respondents. The following result was attained as presented on the table below:

Table 3.2: Test of Reliability by Variables

S/N	Variables	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items	Comments
1	All the variables	.796	.862	48	Excellent
2	Demographic distribution	.612	.551	9	Acceptable
3	Impact of Adoption of Internet Banking on daily Influx of customers to the Banking Halls	.615	.688	9	Acceptable
4	Impact of Internet Banking on the level of Fraud in the Banking Sector	0.907	0.890	10	Excellent
5	Impact of Internet Banking on the Profitability of Nigerian Banks	0.950	0.968	10	Excellent
6	Impact of Adoption of Internet Banking on the Cost of Operation on Nigerian Banks.	0.907	0.953	10	Excellent

Source: Author's computation using SPSS v. 20

The table above shows the Cronbach's test of reliability on the pilot questionnaire carried out before the final distribution of all the questionnaires. The first test on the second row shows the test for all the variables which shows 0.796 and a Cronbach alpha for standardized items at 0.862 on 48 items which is an excellent result on reliability of the variables being tested. The third row is a test for the demographic distribution with a Cronbach's Alpha of 0.612 and a Cronbach's Alpha for standardized item of 0.551 which is Acceptable. The fourth row is a test on the influx of customers to the banking hall on adoption of internet banking and this shows a Crnbach's Alpha of 0.615 and a Cronbach Alpha based on Standardized items at 0.688 in which the test of the reliability is Acceptable.

3.6 Method of Data Analysis

The data collected were analyzed using descriptive and inferential statistics. Measurement of variables was achieved with the use of likert scale from 1 to 5, where 5=Strongly Agree, 4=Agree, 3=Undecided, 2=Disagree and 1=Strongly Disagree. The use of descriptive statistics tools such as frequency tables, mean, mode, median, maximum and minimum, standard deviation were adopted to give an interpretation to the variables being examined. The use of inferential statistics tools were also applied in this research study tools like coefficient of correlation, analysis of variation and regression analysis with the aid of Statistical Packages for Social Sciences (SPSS) version 20. The use of descriptive statistics and Analysis of Variation (ANOVA) were used to reach a conclusion on this research work.

3.7 Limitations of the methodology

The research study witnessed some limitations which mostly has to do with the gathering of data especially getting the old financial report of the commercial banks was time consuming and not readily available on their archives on the internet except for the most recent ones. Most financial institutions or corporate organizations are very suspicious of researchers in gathering of data; therefore, getting the required data from the bank was not quite encouraging due to this wrong perception from respondents which has been a very unique challenge with data gathering in research. Also, the data gathered was limited to just six banks in Nigeria.

4.0 Analysis and Findings

4.1 Demographic Distribution of Respondents

From the frequency distribution table, 39.4% of the respondents are within the ages of 18-30years while 38.6% of the respondents are within the ages of 31-50years while 22.0% of the respondents are 51years and above. This shows that majority of the respondents are within the 18-30years age bracket. The mean age as computed is at 1.8268 closer to the 31-50years age bracket as computed on SPSS, while the median age as computed on SPSS is at 2.0000 which is at 31-50years age bracket and the standard deviation is at 0.76733. This shows that most of the respondents are within the ages of 18-30yrs. Also, 5.5% of the respondents are primary school certificate

holders, 22.0% of the respondents are secondary school certificate holders. 48.8% of the respondents have tertiary education while 23.6% of the respondents have other qualifications. The mean distribution for qualifications is at 2.9055 the median is computed at 3.0000 while the standard deviation computed is at 0.82070 with tertiary education having the mode with the highest frequency as computed using SPSS.

Based on gender, 62.2% of the respondents are males while 37.8% of the respondents are females. The mode consists of the males with the highest frequency in the distribution, with a computed mean of 1.3780 and a median of 1.0000 and a standard deviation of 0.48680 as computed. As regards relationship with the banks, 43.3% of the respondents are customers of the banks, 42.5% of the respondents are staff of the banks while 14.2% of the respondents are both staff and customers of the banks. The computed mean is 1.7087 while the computed standard deviation is at 0.70272. This shows that the average number of staff tends towards 54. Also, 16.5% of the respondents have been banking for 0-5years, 49.6% of the respondents have been banking between 5-10years, and 25.2% of the respondents have been banking between 10-15years, while 8.7% of the respondents have been banking 15years and above. The computed mean is at 2.2598, the median is at 2.0000 and the computed standard deviation is 0.83773. 20.5% of the respondents bank with UBA, 18.9% of the respondents bank with First Bank, 15.7% of the respondents bank with Zenith Bank, 17.3% bank with Diamond bank, 18.1% of the respondents bank with GT Bank, while 9.4% of the respondents bank with Union Bank. The mean is at 3.2205 while the standard deviation is at 1.65190. UBA has the highest number of respondents followed by First Bank and then GTBank. 37.0% of the respondents operate a savings account, 33.1% of the respondents operate a current account with the banks, 9.4% of the respondents have a domiciliary account, 7.9% of the respondents operate a fixed deposit account, and 7.9% operate both current and savings account, while 4.7% of the respondents operate all forms of account stated. The mean of the distribution is at 2.3071 while the standard deviation is 1.47202 respectively. 40.2% of the respondents say they receive funds through internet banking, 19.7% of the respondents say they only transfer funds through internet banking, 19.7% of the respondents also say they make payments and receive funds via internet banking while 20.5% of the respondents say they transfer and receive funds through the internet banking. This shows that most of the respondents carry-out transactions via internet banking channel. The computed mean of the distribution stands at 3.4094 while the standard deviation is at 1.51372.

4.2 Test of Hypotheses

Hypothesis 1

Table 4.1: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	13.192	4	3.298	1.884	.123
Within Groups	119.027	68	1.750		
Total	132.219	72			

Source: Author's computation using SPSS v.20

The result above on the **ANOVA** table shows the sum of squares between groups is 13.192 and the sum of squares within groups is 119.027 at a degree of freedom (n-1) is at 72 and the mean of square at 3.298 between groups and mean square of 1.750 within groups.

Decision Criteria

To accept or reject the hypothesis that supports this research objective we compare the P-value with the alpha value. Where the P-value is lower than the alpha value we reject the null hypothesis but where the P-value is higher than the alpha value we accept the null hypothesis.

The **ANOVA** table shows a P-value of 0.123 which is higher than the alpha value of 0.05 which means we accept the null hypothesis; **(H0) that the adoption of internet banking has no significant impact on Nigerian Banks' profitability.**

Hypothesis 2

TABLE 4.2: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10.175	4	2.544	1.541	.200
Within Groups	112.263	68	1.651		
Total	122.438	72			

Source: Author's computation using SPSS v.20

The result above on the **ANOVA** table shows the sum of squares between groups is 10.175 and the sum of squares within groups is 112.263 at a degree of freedom (n-1) is at 72 and the mean of square at 2.544 between groups and mean square of 1.651 within groups.

Decision Criteria

To accept or reject the hypothesis that supports this research objective we compare the P-value with the alpha

value. Where the P-value is lower than the alpha value we reject the null hypothesis but where the P-value is higher than the alpha value we accept the null hypothesis.
The **ANOVA** table shows a P-value of 0.200 which is higher than the alpha value of 0.05 level of significance. This means that we accept the null hypothesis;
(H0) that the adoption of internet banking has no significant impact on the cost of operations on Nigerian Banks.
Hypothesis 3
TABLE 4.17: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	183.858	2	91.929	227.984	.000
Within Groups	50.000	124	.403		
Total	233.858	126			

Source: Author's computation using SPSS v.20
The result above on the **ANOVA** table 4.17 shows the sum of squares between groups is 183.858 and the sum of squares within groups is 50.000 at a degree of freedom (n-1) is at 126 and the mean of square at 91.929 between groups and mean square of 0.403 within groups.
Decision Criteria
To accept or reject the hypothesis that supports this research objective we compare the P-value with the alpha value. Where the P-value is lower than the alpha value we reject the null hypothesis but where the P-value is higher than the alpha value we accept the null hypothesis.
The **ANOVA** table shows a P-value of 0.000 which is lower than the alpha value of 0.05 which means we reject the null hypothesis **(H0) that Internet banking does not have any impact on the level of fraud in the banking sector**.
Hypothesis 4
TABLE 4.19: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.275	3	.758	.496	.685
Within Groups	187.883	123	1.528		
Total	190.157	126			

Source: Author's computation using SPSS v.20
The result above on the **ANOVA** table 4.19 shows the sum of squares between groups is 2.275 and the sum of squares within groups is 187.883 at a degree of freedom (n-1) is at 123 and the mean of square at 0.758 between groups and mean square of 1.528 within groups.
Decision Criteria
To accept or reject the hypothesis that supports this research objective we compare the P-value with the alpha value. Where the P-value is lower than the alpha value we reject the null hypothesis but where the P-value is higher than the alpha value we accept the null hypothesis.
The **ANOVA** table shows a P-value of 0.685 which is higher than the alpha value of 0.05 level of significance which means that we accept the null hypothesis;
(H0) that Adoption of Internet Banking has no significant effect on daily influx of customers to the banking halls.

4.3 A Review of the Financial Statements

The financial statements of the banks used in this study (GTB, UBA, Diamond, Union, Zenith and First Bank) covers the period from 1997-2015. All of the banks used in this study have been in existence in 1997 except that some were private limited liability such as Diamond Bank and Guaranty Trust Bank. To get the financial report for the stated banks for the period of 1997-2001 was quite tasking as efforts to get the report proved futile. Banks like United Bank for Africa, Zenith bank and First Bank as well as Union Bank have been in the stock market as a public limited liability company with their shares traded on the stock exchange market and their financial report is available for investors and the other various stakeholders.

This research work is limited to comparing and making opinion based on the available data gathered for the 19years period. The use of Ratio analysis such as Returns on Capital Employed, Total Asset to Total Liabilities, and Returns on Liabilities (ROL) were used and percentage change in profit for the period covered in this study with the aid of excel.

ZENITH BANK

The bank was established in May 1990 and commenced operation in July of the same year. On the 21st of October, 2004 the bank became a public limited liability company with branches scattered across Nigeria. From the table as presented on the appendix page. The financial information for the bank is not available for years

1997 to 2000 but there are records for 2001-2015 a period of 15 years. During this period, the bank's Return on Liabilities has not improved significantly over the years as it moved from 0.05 in 2001, and then went down in 2002 to 0.04 and up again farther to 0.11 in 2004 and then witnessed a sharp decline in 2005 and subsequent years until 2008 when it went back up to 0.04 and then remained constant at 0.02 in 2009-2011. In 2012 it went up to 0.05 and then went down and remained constant at 0.03 in 2014 to 2015. This shows that the returns to the bank's liability is quite low and discouraging as the profit can't cover the liabilities owed in the business infact it was better off in 2001 compared to 2015. Looking at the current trend we can conclude that in the areas of profitability internet banking has contributed a bit but not significantly to profitability and cost too has not reduced, the composition of the bank's liabilities have increased over the years proportionately with the value of the assets of the banks. The Return on Capital Employed has been a constant ratio of 0.03 in 2013-2015, 0.02 in 2006, 2007, 2010 and 2011. This is quite low in relationship with the capital employed in the business. The return on asset has also been constant at 0.02 and 0.04 respectively. The ROA for 2001 was at 0.05 while as at 2015 it has dropped to 0.03 (See Appendix). The value of the Total Asset to Total Liabilities increased from 1.13 in 2001 to 1.17 in 2015 at 0.04 for a period of 15years which is not quite encouraging. The only time the value of the TA/TL reached its peak was in 2004 at 4.15 and it went down as far as 1.17 in 2015.

FIRST BANK OF NIGERIA PLC

The bank was founded in 1894 as Bank of British West Africa and renamed in 1979 as First Bank of Nigeria with 790 branches as at 2012.

The 19 years financial information for the Bank showed a constant flow in the returns on liabilities level at 0.02 in 1997 to 0.03 in 2000 then it went further down to 0.02 in 2001-2002 and then went down sharply to 0.00 in 2015 (See Appendix). The return on capital employed (ROCE) was constant at 0.02 in 2012-2014 but fell in 2015 to 0.00 as a result in a significant fall in the profit before tax in the current year. For a period of 6 years from 1997-2002, the ROCE was constant at 0.02 until 2015 when it went down to zero. The bank witnessed a great decline in its profit from =N=94.452million in 2014 to =N=21.512million in 2015. Though, there was an increase in its balance sheet size as its TA/TL ratio moved from 1.13 in 2014 to 1.16 in 2015 which is an increase of 0.03 which is quite not significant. It is observed that the bank's liabilities increased proportionately with its asset and the bank has been paying more in taxes. It was in 2009 that the bank witnessed the highest ratio of its total asset to its total liability at 1.17.

UNITED BANK FOR AFRICA PLC

The bank was established in 1949 as it was referred then as the British and French Bank Limited (BFB). It took over the assets and liabilities of BFB and was incorporated on 23rd of February, 1961 with more than 700 business branches scattered across the globe.

Looking at the bank's financial information, there have really been no significant change in the bank's returns on capital employed and return on liabilities though an increase in profit which compared with its 1997 figures is quite not significant. These are as a reason of some economic factors affecting the industry. The profit before tax of the bank in 1997 stood at above 1trillion naira and moved upward to above 68 trillion naira in 2015 and the value of its total asset in 1997 stood at above 58billion naira and moved up in 2015 to above 2trillion naira. Looking at the return on capital employed for the bank within this period the bank's ROCE stood at 0.02 in 1997 and in 2015 stood at 0.02 showing no movement in its ROCE it was in year 2000 it achieved the highest ROCE. Also, there is also no significant movement in its returns on liability which is computed as PAT/TL which also stood at 0.02 in 2015 and has been constant for a 4year period from 2012-2015 except from 2009-2011 when it was at its lowest ebb at 0.00. Also, the bank's returns on asset (ROA) has also not improved significantly this is portrayed in the hypothesis being tested. The ROA was at 0.02 in 1997 and then dropped to 0.00 in 1998 and back to 0.02 in 1999 and moved up a bit to 0.03 in the year 2000 these periods were before the advent of the internet and during the introduction of GSM in the president Olusegun Obasanjo regime. The ROA from 2012-2015 has remained constant at 0.02 which is not quite encouraging. There is an improvement in the bank's TA/TL ratio though not a significant one from 1.09 in 2011 to 1.14 in 2015 for the 5 years period (see appendix). The bank was able to achieve the highest TA/TL in 2007 which stood at 1.16 these was 2 years after the restructuring (Standard Trust Bank and UBA merger) as instructed by the Central Bank of Nigeria in 2005.

DIAMOND BANK PLC

The bank was established in Nigeria as a private limited liability company on March 21, 1991. On January, 2005 following a high successful private placement share offer the bank became a public limited company in May 2005 on the Nigerian Stock Exchange Market.

Looking at the ratio analysis being computed as can be found on the appendix page, the bank's financial report for 1997-1999 is not available and all effort to get the report proved abortive so the work is left with 16years financial report for the bank and the analysis made without hindering the goal and objective of this research work.

In year 2000 the bank's return on liabilities stood at 0.04 and remained constant till 2001 at the same rate and it further dipped down to 0.03 in 2002, 0.00 in 2003 and 0.01 in 2004 and further down to 0.00 in 2015

which is quite disheartening showing that the impact of internet banking has not been significantly felt for the returns made from its operations could not cover its liabilities. Also, looking at the returns on capital employed in the business this has not improved either, instead, it dropped for a five year period from 0.02 in 2011 to 0.00 in 2015 which is not quite encouraging. The only time the bank achieved the highest ROCE was in 2001 at 0.04 that is about twelve years ago. The returns on asset (ROA) has also not been encouraging, the value was constant from 2012-2013 at 0.02 but negative in 2011. The highest ROCE was also achieved in 2001 at 0.05 quite far better than it was in 2015. Also, the ratio of the TA/TL has neither improved as it has witnessed a sharp decline from 1.22 in 2010 to 1.14 in 2015.

GUARANTY TRUST BANK

The bank was incorporated in as a limited liability company in 1990 and commenced operations in February, 1991. In September 1996, GTB became a publicly quoted company on the Nigerian Stock Exchange and later appointed a settlement bank by the CBN in 2003.

All efforts to get the financial report for 1997-2000 proved abortive and out of the 19years financial figures only 15years was captured in this research to aid in the ratio analysis (see appendix). The return on liabilities was constant for the period 2013-2015 at 0.05 which is quite not significant to what the bank attained in 2007 and 2008 at 1.05 and 1.01 respectively as this was the peak the bank achieved in the 15years period. The bank's return on liabilities was also constant during the period 2001-2003 at 0.04 it went down to 0.03 in 2004 and then back up to 0.35 and 0.65 respectively in 2005 and 2006. Also, the bank's return on capital employed was constant for the periods 2013-2015 at 0.04; it attained the highest ROCE in 2012 at 0.05 compared to that attained in 2002-2011 at a constant rate of 0.03 spanning a period of ten years.

Also, the bank's return on asset for 2013-2015 remains constant at 0.05 which was same as what was achieved from 2001-2003 at 0.05 and then dropped slightly to 0.04 in 2004-2005. The ratio of the total asset to the total liabilities (TA/TL) was 1.10 in 2001 and then increased to 1.14 in 2002 and then dropped slightly to 1.12 in 2003 and 1.10 in 2004. The highest ratio of TA/TL was attained in 2008 at 1.29 three years after the CBN bank reconstruction. The value began to drop sharply in 2009 from 1.24 to 1.17 in 2011 and maintained a constant position at 1.19 in 2012-2014 and then increased to 1.20 in 2015.

UNION BANK OF NIGERIA PLC

The bank was founded in 1917 as Colonial Bank and acquired by Barclays Bank in 1925. In 1971 the bank's stocks were listed on the Nigerian Stock Exchange Market as a public limited liability company and its name was changed to Union Bank of Nigeria in 1979 when 40% of its shares were sold to Nigerians.

Looking at the bank's returns on liabilities (see computation on appendix), in 2001 it stood at 0.02 and remained constant from 2001-2005 at that rate. In 2006, it went up to 0.03 and down to -0.06 in 2008 and -0.35 in 2009 and then back up to 0.14 in 2010 and then down again to -0.10 in 2011 and then picked again from 2013 at 0.01 to 0.03 in 2014 and then down again to 0.02 in 2015.

The return on capital employed was constant for a period of five years from 2001-2005 at 0.02 and then went up to 0.03 in 2006-2007 and then down to -0.06 in 2008 and -0.24 in 2009. It went up to 0.11 in 2010 and then back down again to -0.08 in 2011 and then regained back its momentum in 2013 at 0.01 and went up to 0.03 in 2014 and then back down to 0.01 in 2015.

The return on asset has not improved significantly; it has dropped from 0.03 in 2001 to 0.01 in 2015 without any improvement. This shows that the profit after tax could not cover the amount incurred in procuring the assets used in the business this is quite low and shows that internet banking in Nigeria needs to be improved upon to ensure profitability as it is still not contributing significantly to the overall performance of the banking industry. Also, the ratio of the total asset to the total liabilities has moved from 1.07 in 2001 to 1.30 in 2015 which shows an improvement in the rate of asset acquired by the bank to that which it owes as liabilities.

4.3 Findings

From the data gathered and tested above, this research study has been able to observe the effect of adoption of internet banking on the performance of Nigerian Banks, most of the banks being examined make use of the internet and also provide internet banking services to their customers.

The use of internet banking in Nigeria has not been quite effective as there is need for the banks to ensure they put in place security measures that will address the issue of online fraud and prosecute offenders this is in accordance with the findings of Ogunlawore et al (2014). It is believed that some members of staff of the banks do perpetrate internet banking fraud and most of the customers have been victims, this has eroded the confidence level of most users of internet banking in Nigeria for fear of losing their finances to fraudulent individuals who may have access to their banking information.

It has also been observed that the cost of installing and providing internet banking facilities quite outweighs the profitability as cost of hardware and software is on the increase as at present where the value of the Naira to the Dollar is at =N=435 this is in line with the findings of Enekwe, Ordu & Nwoha (2013). Most of these facilities are being procured from abroad and it is quite rare to come across internet banking hardware

manufacturers in the country as well as internet banking software applications for ease of transaction.

The advent of internet banking has not been adequately explored unlike developed countries where banks are established without physical branches, this is in line with the observations of Abanewe et al (2003). It is rampant these days to find in banking halls crowds and at ATM long queues which are quite discouraging as the major aim of internet banking has been defeated which is to reduce the number of customers in the banking halls this finding is in line with Ogunlawore et al (2014) as customers' satisfaction is eroded and there is need to put various security measures in place. The cost of doing business in Nigeria outweighs the benefit derivable from it, reason why some companies have left the shores of Nigeria for her neighbors like Ghana, Senegal, and Cote d'Ivoire.

The findings based on the hypotheses tested as centered on profitability, cost, influx of customers to banking halls and fraud were examined and a decision was arrived at. Four hypotheses were tested and are summarized below:

Hypothesis one covers the adoption of internet banking impact on Nigerian Banks' profitability. From the data analysed there is no significant impact on profitability of banks in Nigeria on the adoption of the internet banking. It has not played a significant role in the banking sector due to so many factors like the rising prices of goods and the high cost of doing business. From the financial data gathered, the banks are incurring more liabilities with each passing day at the detriment of the shareholders; this is as a result of the need to gather more capital to finance the business. The use of internet banking has not been fully appreciated, that is why there is still the need for customers to visit the banking halls and more branches being created to meet customers demand. Not everyone has adopted the use of internet banking as some customers do prefer to visit the banking hall for fear of fraudsters taking advantage of their accounts online without them knowing so some do prefer to bank the old way by visiting the banks and not patronizing the online banking channels.

Hypothesis two addresses the adoption of internet banking impact on cost of operations in Nigerian Banks. From the data analysed, there is no significant impact of adoption of internet banking on cost of operation in Nigeria. This can be seen from the continuous establishment of physical branches in the country and outside of the country. It is imminent that the cost of production in the country is quite on the high side as the value of the naira has gone down drastically compared to her foreign counterpart the dollar. The cost of doing business in Nigeria is now on the high side, administrative, overhead and other operational costs have gone up as a result of exchange rate. The country is not a producing one but a consuming one and the cost of operation is going up on a daily basis. The liabilities incurred by the banks in carrying out their operation is almost in tandem with the value of their assets with a low returns after tax compared to the assets employed in the business. So in Nigeria, the use of internet banking has not been of significant impact to cost reduction, the physical branches are supposed to reduce and it is a very sorry sight to see as banks are beginning to lay-off staff because of the inability to meet administrative expenses.

Hypothesis three covers the impact of internet banking on fraud perpetration in the banking sector. From the data analysed for this hypothesis, the use of internet banking has really contributed to the level of fraud perpetration in the banking sector in Nigeria. It is a very common thing these days to hear that staff of the banks colluded with some miscreants to defraud bank customers, or even carry-out the actions on their own while most of them go free without being prosecuted for fear of bringing the image of the bank to disrepute. With the use of internet banking, fraud has become more sophisticated and bank accounts easily hacked into and millions of bank customers' fund stolen from a remote area where they can hardly be suspected. The use of various devices like phishing, key-logging, cloning, spam etc are used to defraud customers where unsolicited messages would be sent to victims instructing them to confirm their BVN and fill in their personal details. It is possible these days for individuals not to give out their card details and still fall victims to the fraudsters.

Hypothesis four covers the impact of internet banking on daily influx of customers to the banking halls. From the data analysed for this hypothesis, it was decided that the adoption of internet banking has not reduced the daily influx of customers to the banking halls. Most bank customers in Nigeria still find one reason or the other to visit the banking halls to carry out transactions and it is a common thing to see people on long queue trying to withdraw from ATM machines.

People still find time to visit the banking hall to lodge complaints, make withdrawals or do some transfers which they can basically do at the comfort of their homes. This is why the banks need to sensitize the customers and put up an effective system that would address customer complaints and resolve issues without the customers necessarily having to visit the banking halls.

4.4 Conclusions and Recommendations

Internet Banking is a great development in banking which has made banking quite easy most especially in developed nations as compared to developing nations like Nigeria due to some factors as stated above. There is need to really explore the benefits provided by this great innovation most especially among people of the developing nations. From the findings stated above, the following conclusions are made below:

i. The adoption of internet banking in Nigeria has not impacted significantly on the profitability of the banks over the years as the cost of operating it far outweighs the benefit especially in Nigeria.
ii. In Nigeria, the adoption of internet banking has not impacted significantly to reducing the influx of customers in the banking halls as most customers still prefer to visit the banks to carry-out transactions and lodge complaints.
iii. In Nigeria, the adoption of internet banking has contributed significantly to the level of fraud perpetration by fraudsters in the industry and most of their victims are the educated and the uneducated customers of the various banks.
iv. The adoption of internet banking in Nigeria has not been able to reduce the cost of operation. The cost of operating internet banking is very high, having to network the branches and procure hardware which is not produced within the country. The cost of establishing branches and running the banking business has not reduced but has increased over time.

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