**IMPACT OF INFORMATION COMMUNICATION TECHNOLOGY (ICT) DEPLOYMENTS ON DEPOSIT MONEY BANKS PERFORMANCE** - **A STUDY OF FIRST BANK PLC, NIGERIA (2012 – 2017)**

**BY**

**ONYEKA, SCHOLASTICA CHIDIMMA**

**U14/MSS/BAF/014**

**DEPARTMENT OF ACCOUNTING AND FINANCE**

**FACULTY OF MANAGEMENT AND SOCIAL SCIENCES**

**GODFREY OKOYE UNIVERSITY**

**UGWUOMU-NIKE**

 **ENUGU STATE**

**JULY, 2018**

**TITLE PAGE**

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 **BEING A PROJECT TOPIC SUBMITTED TO THE DEPARTMENT OF BANKING AND FINANCE, FACULTY OF MANAGEMENT AND SOCIAL SCIENCES, GODFREY OKOYE UNIVERSITY, UGWUOMU- NIKE, ENUGU STATE**

**IN PARTIAL FULFILLMENT OF THE REQIUREMENTS FOR THE AWARD OF THE BACHELOR OF SCIENCE (B.Sc.) DEGREE IN BANKING AND FINANCE**

**SUPERVISOR: Dr. S.N. p. Nwankwo**

**JULY, 2018**

**DECLARATION**

I, Onyeka, Chidimma Scholastica, with the registration number U14/MSS/BAF/014 is a bona fide student in the Department of Accounting and Finance under the Faculty of Management and Social Sciences in Godfrey Okoye University. I would like declare that the work entitled the impact of Information Communication Technology (ICT) Deployments of deposit money bank performance – A study of First Bank Plc Nigeria, 2012 - 2017 was submitted by me in partial fulfillment of the requirements for the award of the Bachelor of Science (B.Sc) in banking and finance, Is my original work and has not been submitted either in part or full for any other degree or diploma either in this or any other tertiary institution.

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**Onyeka Chidimma Scholastica date**

**CERTIFICATION**

This is to certify that this research entitled the impact of Information Communication Technology (ICT) Deployments of deposit money bank performance – A study of First Bank Plc Nigeria, 2012 - 2017 was written by Onyeka, Chidimma Scholastica with registration number U14/MSS/BAF/014, presented to the Department of Accounting and Finance of Godfrey Okoye University, Enugu. Has been assessed and approved by the department of Accounting and finance, Godfrey Okoye University Enugu.

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Dr. S.N. Nwankwo DATE

(PROJECT SUPERVISOR)

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EXTERNAL SUPERVISOR DATE

**DEDICATION**

This research work is dedicated to Almighty God, for His infinite mercy, protection, provision and guidance throughout my stay in Godfrey Okoye University, Ugwuomu-Nike, Enugu State. May His grace forever abound in Jesus name, Amen.

**ACKNOWLEDGEMENTS**

My appreciation goes to my supervisor Dr. S.N. Nwankwo, whose advice and courage to this work is worthy of emulation.

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My thanks go to my beloved parents, Mr. and Mrs. C.C. Onyeka for their parental care, financial support and encouragement. I pray that they will reap the fruit of their labour and may God bless them.

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**List of Tables**

**Table No. Table Name Page No**

4.1 Data used for the analysis 37

4.2 Coefficientsa (Regression result for model one) 37

4.3: Coefficientsa (Regression result for Model Two) 38

4.4 Result of a prior test 39

4.5 Correlation result for hypothesis one 40

4.6 Correlation result for hypothesis two 41

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**ABSTRACT**

*This work assessed the impact of Information and Communication Technology deployments on Deposit Money banks performance, 2012-2017. The general objective of this study is to determine the impact of ICT deployments on Deposit Money Banks performance. Two specific objectives and two hypotheses were formulated and tested the study. The researcher adopted ex-post facto research design in the study. The data was collected from the First bank’s annual report from the bank’s website covering the period of 2012 -2017.The independent variable of the study is ICT deployments, while the dependent variable of the study is deposit money banks performance. Simple regression analysis was used to test the objectives and the hypotheses were tested using Pearson correlation analysis to determine the relationship between the dependent and independent variable. The analyses were carried out using statistical package for social sciences (SPSS). The result showed that point of sale has positive and significant relationship with return on asset. Also, the result equally indicated that automated teller machine has positive and significant relationship with banks deposit. The study concluded that Information Communication Technology innovation has influenced Deposit Money Banks in a positive way. Based on the findings of the study, the researcher recommended as follows: The management of the financial institutions should make more adverts on the use of Point of Sales (POS) and Automated Teller Machine (ATM) so as to encourage more people to use it which on the long run will increase the performance of the Nigeria banking system. More so, the cost procuring POS and should be drastically reduced, to make it affordable to retailers, filling stations, and supermarkets, so as to promote the performance of the Nigeria banking system.*

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**Table of Contents**

Title page i

Declaration ii

Certification iii

Dedication iv

Acknowledgement v

Abstract vi

List of Tables vii

**CHAPTER ONE: INTRODUCTION 1**

 1.1 Background of the study 1

 1.2 Statement of the problem 5

 1.3 Objectives of the study 6

 1.4 Research Question 7

 1.5 Research Hypothesis 7

 1.6 Scope of the study 7

 1.7 Significance of the study 8

 1.8 Limitation of the study 9

**Chapter Two: Review of Related Literature 10**

 2.1 Conceptual Framework 10

 2.1.1 Concept of Banking Technology 13

 2.2 Theoretical Framework 15

 2.3 Empirical Review 22

 2.4 Summary and Gap in literature 30

**Chapter Three: Research Methodology 32**

3.1 Research Design 32

3.2 Nature and Source of Data 32

3.3 Instrument for data collection 33

3.4 Description of research variables 33

3.5 Model Specification 33

3.6 Validity and reliability of instrument 35

3.7 Data Analysis 35

**Chapter Four: Presentation and Analysis Result 36**

4.1 The Empirical Results 36

4.2 Regression Result of the First Model 36

4.3 Regression Result of the second Model 38

4.4 Result of A prior test 39

4.5 Evaluation of Research Hypothesis 40

4.6 Discussion of the result 42

**Chapter Five: Summary, Conclusion & Recommendations 43**

5.1 Summary of findings 43

5.2 Conclusion 43

5.3 Recommendations 44

References 46

Appendix 55

**Chapter one**

**Introduction**

**1.1 Background to the Study**

In the 1990s when Information and Communication Technology (ICT) was not in existence, banks experienced many hardships and restrictions. Customers had to visit their various branch banks to withdraw money. There were no computers, internet etc., rather information and activities were handled manually and this made banking work cumbersome. There were long queues at the banks on some days when the bank staff could not handle the workload. There was no cashless economy. People carried cash around with them and so on. But now the use ICT in banks changed all these things and also improved banks performance in the whole world.

In this 21st century, information communication technology has vastly developed and has led to development in the whole world. Banks have always been at the fore front of controlling and making use of technology to improve their performance and services to their customers. Today banks operate in a complicated and competitive environment due to the nature of our highly unpredictable economy. The use of ICT in banks brought competition, flexibility, efficiency etc. to the banking industry and has also played a very important role in improving service delivery standards in the banking industry. For example, the use of Automated Teller Machine (ATM) now allows customers to carry out their various banking transactions beyond banking hours. It allows customers to withdraw money without going inside the bank.

The use of mobile banking allows the customer to do any transaction and check their balances without stress. This has created a cashless economy where there is no need for carrying cash around; transactions are done through the internet. The use of computers and internets made bank works faster and easier. We also have point of sales, smartcards, etc. The use of ICT has helped the banking industry in improving their performance. With ICT, customers and employees have access to information in a way that is controlled and safe. ICT infrastructure evolved to become a critical factor driving productivity and growth in global economies with varying implications among developed and developing nations (Steinumueller, 2001). It is important for developing nations not to isolate themselves from the changes occurring due to the development in the ICT globally (Gholami et al, 2004). This is partially because ICT is transforming the global economy and creating new network that crosses cultures as well as minimizes distances. However, it is important to note that increased investments in ICT without the involvement of other socioeconomic factors may not improve growth in developing nations (Mbaerikaetal, 2003)Researches by Grigorian, et al., (2002); Nzotta and Okereke, (2009); Thiel, (2001) has shown that globalization has caused intense competition in the banking industry, worldwide. The world is seen as a global village which turned the markets and economies in like manner. The phenomenon called globalization has significantly intensified competition in three particular aspects in the way competition had evolved giving it a new dimension; (i) Banks faces pressures from a wide and diverse range of competitors; (ii) the regulatory environment has become less protective of the banking sector and (iii) competition has become global in nature (Abdulsalam, 2006). The universal banking system was introduced in Nigeria in the early 1990s and rest of the world as an offshoot of globalization. Under this new system, banks were no longer specialized in either merchant banking or commercial banking; rather they are allowed to provide banking and other financial services to their customers under the new universal banking license. Banks could therefore provide commercial banking, stock broking, insurance business, and asset and trustee management services under the new banking regulation. It also prompted a rapid and significant branch office expansion program with its attendant significant increases in the volume of customers’ transactions in banking industry for survival and profitability (Johnson, 2005). The increased demand for information and communication technology (ICT) in banking sector became imminent and unavoidable in the world at large and Nigeria in particular. Invariably, the future lies in the ICT driven banking systems and services. Banks have embarked on deployment of ICT based banking products and services such as automated teller machine (ATM), internet banking, mobile banking solutions, point of sale terminals, computerized financial accounting and reporting, human resources solution among others (Ovia, 2005). Linked to this, was the banking license liberalization of the early 1990s in Nigeria. The landmark period witnessed the birth of the new generation banks (i.e. GT Bank, Zenith Bank, etc.) that commenced operations with the state-of-the-art technology, which exposed the sluggishness and inefficiency of the older banks (i.e. the three Giants; First Bank, UBA and Union Bank). Some researchers had shown that the then “re-engineering” fever, compelled the old generation banks to change. It was further stated that the trend actually took selected commercial banks some time to follow suit because the issues were much more than designing algorithms and chewing seminal computing papers from first class journals. Based on the above, this study is focused on investigating the impact of ICT deployments on banks performance. In measuring performance of a bank, there are financial performance and non financial performance. For this study the researcher measured one financial performance which is return on asset (ROA) and one non financial performance which is the Bank deposits; which is the mirror of how the bank is accepted by the public.

**1.2 Statement of the Problem**

Times have changed, and so it is with every facet of life including banking. One can now transact business across the globe through the use of Information Communication Technology (ICT). There are now electronic markets, electronic banking, electronic library, etc. Modern Banks now realized that only those that overhaul their payment service delivery and operations are likely to survive and prosper in this 21st century.

The evolution of ICT dates back to 1986 when the banking sector in Nigeria was deregulated. The result of this deregulation brought far-reaching transformation through computerization and improved bank service delivery. The 21st century will bring about an all embracing convergence of computing, communications, information and knowledge. Information Communication Technology has given banks a potential they could only dream about and have given bank customers high expectations. Many commercial Banks today are still struggling with effective use of internet which limits the services to their customers. Today’s business environment is very dynamic and undergoes rapid changes due to technological innovation, increased awareness and increased demands from customers. The banking industry of the twenty first century operates in a complex and competitive environment characterized by these changing conditions and highly volatile economic climate, and information and communication technology (ICT) is at the center of this global change curve (Agboola, 2006). Hence the banks that will survive and complete effectively in today’s business environment must necessarily integrate ICT into its operational processes. This study therefore intends to evaluate the impact of ICT on banks performance.

**1.3 Objectives of the Study**

The purpose of this study is to determine the impact of Information Communication Technology deployments on banks performance.

Specifically, the study intends to find out:

1. To evaluate the impact of Information Communication Technology deployments on banks return on asset (ROA)
2. To evaluate the impact of Information Communication Technology deployments on banks deposit.

**1.4 Research Questions**

1. To what extent do Information Communication Technology deployments have impact on banks return on asset (ROA)?

2. To what extent do Information Communication Technology deployments have impact on banks deposits?

**1.5 Research hypotheses**

H0. Information Communication Technology deployments have no positive and significant impact on banks return on asset (ROA).

H1. Information Communication Technology deployments have positive and significant impact on banks return on asset (ROA).

H0. Information Communication Technology deployments have no and significant positive impact on banks deposit.

H1. Information Communication Technology deployments have positive and significant impact on banks deposit.

**1.6 Scope of the Study**

This study focused on the empirical analysis of the impact of ICT deployments on banks performance. The measures of banks performance are return on asset and bank deposit while the variable for banks performance is profitability. This study is limited to focus on first Bank plc Nigeria for the period of 2012 -2017.

**1.7 Significance of the Study**

**The Banking Industry**

The findings of the study will be used by stake holders in the banking industry to make appropriate decisions towards adoption of different technological channels in delivery of services. They will understand the benefits of adopting electronic banking in their financial institutions. They will also appreciate the impact of information communication technology on their performance.

**The Academicians and Scholars**

Future researchers and scholars may use the survey as a source of reference for further research on the same area. It is important to document the research findings for future reference. Scholars will be keen to understand the impact of technology on financial performance in the banking industry.

**The Government**

The government will be interested in finding out how technology can be maximized in spurring economic growth in financial institutions.

**1.8 Limitations of the Study**

 The researcher encountered financial problem, lack of time to cover all commercial banks in Nigeria and difficulty in collecting data used for the study.

**CHAPTER TWO**

**REVIEW OF RELATED LITERATURE**

**Introduction**

In this chapter we have review of related literature. It is an evaluative report of information found in the literature related to a researcher’s area of study. It consists of conceptual framework, theoretical foundation, and empirical review.

**2.1 Conceptual Framework**

ICT is a combination of ‘Information Technology and ‘Communication Technology’. It merges computing with high speed communications link carrying data, sound and video (Alabi, 2005).

Information Technology (IT) deals with the collection, storage, manipulation and transfer of information using electronic means. ‘Communication Technology’ refers to the physical devices and software that link various computer hardware components and transfer data from one physical location to another (Laudon and Laudon, 2001).

According to Mejabi, (2008), Information Technology is a general term that describes any technology that helps to produce, manipulate, store, communicate and or disseminate information. Information technology is a term which generally covers the harnessing of electronic technology for the information needs of businesses at all levels (Anderson, 1990).Technology can be referred to as the application of knowledge for the execution of a given task. It entails skills and processes for carrying out activities (works) in a given context. While information and communication technology (ICT), encompasses computer systems, telecommunication, networks and multimedia applications (Frenzel, 1996). It came into use in the late 1980s replacing earlier terms like electronic data processing (EDP), management information system (MIS), although latter terms are still in use (Frenzel, 1996). ICT has transcended the role of support services or only electronic data processing, its fields of applications are somewhat global and unlimited. Its devices especially the internet through the world wide web (www) and modern computer email facilities have further strengthened early innovations like the telephone and fax. Other ICT devices include data recognition equipment, factory automation hardware and services, telecommuting and teleconference using real time and online system (Adeoti, 2005). It is a concept that is having a remarkable effect on almost entire aspects of the human endeavors. This means that it involves the application of principles to engage physical component in achieving an intended goal. The convergence of computer and telecommunication after about four decades of applying computers to routine data processing, mainly in information storage and retrieval, has created new development where information has become the engine of growth around the world. This development has created catch-up opportunities for developing countries such as Nigeria to attain desired levels of development without necessarily ‘reinventing the wheels of economic growth. The new technology has brought far-reaching revolution in societies, which has tremendously transformed most business (banking) scenes (Ovia, 2005).

E-banking service is a powerful tool to reach the doorsteps of unreached community to bring them to the main stream of the economy and also to help them to access banking services. No doubt that today’s banking business environment has become dynamic and has undergone rapid change because of the introduction and upgrading of technological tools.

ICT is a combination of computer technology and telecommunication channels like verbal communication, writing, audio-visual and electronic media. Communication and technology are widely used in all aspects of life and increasingly applied to all the sectors of the economy. ICT is a combination of hard ware, software and telecommunications.

ICT can be described as:

**Information**: - processed data

**Communication:** - exchange of information from one point to another, either electronically or non-electronically.

**Technology:** - specific scientific knowledge used in a practical way with advanced tools.

**2.1.1 Concept of Banking Technology**.

ICT has sprinkled miraculous water on the economy. It is hatching golden eggs and boosting the economy to achieve double digit growth. ICT strategy by bringing transparency and increasing efficiency is helping the banking sector to have a sound financial performance.

Core banking solution helps customers to transfer funds, to operate accounts and avail all banking transactions from any branch of a bank. It creates a network among all branches of a bank.

Core banking solution is used in many ways:

* To get a statement of accounts
* To transfer funds
* To make payments in any branch
* To get demand drafts in any branch.

The core banking solution aims at providing efficient transparent quality service.

1. ATM Service: ATM is also noted as Automated Teller Machine and it is also simply said in commoners’ language as any space time money. It is an electronic communication device installed in the premises of a particular or established outside the area of the bank to help customers to do their transactions without the need of bank staff. Customers have to insert card with magnetic strip which contains their bank information and enter the PIN code to perform financial transactions.
2. Mobile Banking: mobile banking technology is a system that allows customers who have smart phones to perform their banking transaction., It includes:
3. Checking bank statements.
4. Monitoring term deposits.
5. Accessing to mutual fund and equity statements.
6. Accessing to loan statements
7. Paying bills.etc

Therefore, it is said that mobile banking is an e-banking service provided by bank to do transactions in the physical absence of the customer.

1. Internet Banking is a convenient E-banking service provided by the banks to their customers. With this service, customers can do banking transaction anywhere or at home or office. Internet banking services provides the following services:
2. To check account information
3. To open fixed deposits
4. To recharge prepaid mobile
5. To pay utility bills
6. To transfer funds
7. To open or close accounts.

With net banking transactions customers can avail various services online even after banking hours.

* 1. **Theoretical Review**

Information Communication Technology is a combination of information technology and communication technology. It merges computing with high speed communication link carrying data, sound and video (Alabi, 2005). It deals with the collection, storage, manipulation and transfer of information using electronic means. Communication technology refers to the physical devices and software that link various computer hardware components and transfer data from one physical location to another (Laudon, 2001). The relationship between ICT and performance has attracted the attention of researchers in recent times. Several studies have been conducted to investigate this relationship. It is however worthy of note that there has never been a consensus on whether ICT contribute to organizational performance or not. While many studies provide evidence of the positive effects of ICT investment on firm performance (Becchetti, Bedoya and Paganetto, 2003; Hernando and Nunez, 2004; Indjikian and Siegel, 2005; Bayo–Moriones and Lera– Lopez, 2007; Badescu and Garces–Ayerbe, 2009) some others argue in the contrary (OECD, 2004; McKinsey, 2004). Different theoretical approaches have been adopted by researchers to investigate the nature of the relationship between ICT and firm performance over the years. Transaction cost theory (Williamson, 1975); Value chain analysis (Porter, 1985); and Resource based view which is a more recent theory that is widely embraced by many such as Bharadwaj, (2000), Wade and Hulland (2004), Kim et al, (2006), Rai et al, (2006), Wu et al, (2006), Ordanini and Rubera,(2010); Lee, Koo and Nam ,(2010); Fahy and Hooley, (2011); Rashidirad, Syed and Soltani, (2012).

Classical theories of economic growth attributed to Adam Smith whose monumental work contained elements of growth theory even though those were not developed into a formal or systematic theory as we now know most theories to be. Elements of this non-formalized classical theory of growth are also to be found in the writings of Ricardo and other classical economists such as Mills (Olofin, 2001). He also continued with the next to the classical theories of growth are what may be described as Marxian theories of capitalist development which focus on the motivating force behind the development of the so-called capitalist economies. They also analyze how the alternative of planned economic development may be brought about. Planners in most of the now defunct socialist world lay claim to being guided by the principles of growth and development outlined in Karl Marx’s Das capital, in drawing up their development plans.

Among other theories in growth economics is Schumpeter’s (1911) theory of growth, which emphasizes the importance of inflationary financing and innovations as the major factors which promote economic growth. There is also Rostow, (1960) who outlines five-stages of development which are (i) the traditional society (ii) the pre-conditions for take-off. (iii) The take-off (iv) the drive to maturity and (v) the age of mass consumption. There is also Leibenstein, (1957) critical minimum effort theory. The emphasis of his theory of economic growth is on the need to stimulate income-raising or growth promoting factors in developing economies to some critical minimum level, without which such economies would remain trapped in vicious circle of low income, slow growth and underdevelopment. There is another variant of the critical minimum effort thesis which is the Big-Push theory of growth, propounded by Rosenstein, (1961).

This theory stresses the need for a large comprehensive programme, in the form of a high minimum amount of investment that would enable a developing economy overcome once and for all the obstacles to development.

It is often argued that IT advances played a substantial role in the recent speedup, but the extent of this contribution is difficult to determine in part because many other events occurred over the same period of time. Some have examined differences across industries and found that the highest productivity gains have generally occurred in industries that tend to use IT intensively and those that manufacture IT equipment (Stiroh, 2001).

 The resource-based view (RBV) of the firm posits that firms compete on the basis of “unique” corporate resources that are considered to be valuable, rare, difficult to either imitate or substituted by other resources. The theory stemmed from the area of strategic management research and widely attracts attention as a suitable tool to examine the value delivered by IT resources (Melville, 2004; Wade& Holland, 2004). The resource-based theory rationalizes firm’s superior performance to organizational resources and capabilities. The resources-based view of the firm links the performance of organizations to resources and skills that are firm specific, rare and difficult to initiate or substitute (Barney, 1991). Hence, it is a theory that is mostly preferred by researchers in this area of study. Anywhere and anytime banking has become a feature of the modern financial system. Electronic funds transfer and e-banking services have made globe into a small village and have eliminated the geographical constraints. Technology is identified as an important factor by many economists. Innovation Diffusion Theory was developed by Roger in 1983. This theory investigates the characteristics of technology adopters who accept innovative technology. This theory is based on five important factors such as:

* Relative advantage: observing the comparative advantage over new technology with available technology.
* Trial: before adopting new technology in routine life just take trial and error.
* Observable: clearly observing technology’s outputs and its gains.
* Complex: understanding its ease of use.
* Compatibility: accepting new technology without problems or conflict.

Researchers namely Tan and Teo, (2000), Gerrard and Cunningham, (2003) and MdNor and Pearson, (2008) have tested this theory on e-banking services. In this background the present research study also tests the reasons for opting e-payment and e-banking service by both customers and employees in the study area. The present study has taken the following factors such as:

Reasons for accepting technology based services by employees:

* Flexible
* Fast response to customers
* Improves efficiency and productivity
* Reduces errors
* Reduces manual work stress
* Convenient

Reasons for accepting technology based services by customers.

* Easy to use
* Trendy
* Time saver
* Prestigious
* Convenient
* Quality of service

The study has listed above factors and asked respondents to answer the reasons for accepting or adopting new technology in banking transactions.

Adam Smith, father of economics in his ‘ Wealth of Nations’ has discussed about the division of labor and varieties of machines and opined that inventions of machines encourage labor force to produce more output with good productivity.

Robert Solow, (1950) formulated a theory of economic growth and stressed the importance of technology. He stated that a tremendous increase in gross output per hour of work in the USA economy between 1909 and 1949 was the outcome of technological advancement. He also examined that increased use of capital assured 12.5 percent in per capita output and it left 87.5 percent residual that was attributed by technology development. Schumpeter, (1883-1950) in his theory of innovation stated that anything stagnated in the state does not yield any profit, but when innovation takes place it disturbs steady state and brings profit.

Innovation economists opined that a key driver of economic growth in today’s knowledge based economy is not capital but technology. According to them technological spill over creates a competitive environment. They also found the inter-linkage between innovation and market growth. Schumpeter in his book Theory of Economic Development which was published in 1912 wrote that any economy to be on the path of economic development needs healthy and well developed banking sector. Set of innovations or research and development activities pave the way for technological development and create a new product for organization. Eventually, it leads to long term growth in the economy. I anchored my study on the theory of innovation by Schumpeter because he stated that anything stagnated in the state does not yield any profit, but when innovation takes place it disturbs steady state and brings profit. During the era banks don’t make use of ICT I believe their performance (financial and non financial) was stagnated until the innovation of ICT. Banks making use of ICT improved their performance both in services they offer to their customers and also their profitability.

**2.3 Empirical Review**

Information and Communication Technology (ICT) and Bank Performance Information Technology (IT) is the automation of processes, controls, and information production using computers, telecommunications, software and ancillary equipment such as automated teller machine and debit cards (Johnson, 2005). Irechukwu, (2000) lists some banking services that have been revolutionized through the use of ICT as including account opening, customer account mandate, and transaction processing and recording.

Communication technology deals with the physical devices and software that link various computer hardware components and transfer data from one physical location to another (Laudon and Laudon, 2001). ICT products in use in the banking industry include automated teller machine, smart cards, telephone banking, Magnetic Ink Character Reader (MICR), electronic funds transfer, electronic data interchange, electronic home and office banking (Akpan, 2008 and Johnson, 2005).

Agboola, (2001) studied the impact of computer automation on the banking services in Lagos and discovered that electronic banking has tremendously improved the services of some banks to their customers in Lagos. The study was however restricted to the commercial nerve center of Nigeria and concentrated on only six banks. He made a comparative analysis between the old and new generation banks and discovered variation in the rate of adoption of the automated devices.

Aregbeyen, (2011) evaluated the impact of the re-engineering of Operational processes on the First Bank Nigeria Plc using paired data samples for the period 1986 to 2008. The author utilized both descriptive and inferential analysis (t-test) to test the hypothesis that business re-engineering has no significant effect on the operational performance (First Bank Nig. Plc). The findings of the study show that re-engineering project significantly improved the profitability performance of the bank in the period under study.

 Ovia, (2000) discovered that banking in Nigeria has increasingly depended on the deployment of information technology and that the IT budget for banking is by far larger than that of any other industry in Nigeria. He contended that the on-line system has facilitated internet banking in Nigeria as evidenced in some of them launching websites. He found also that banks now offer customers the flexibility of operating an account in any branch irrespective of which branch the account is domiciled. Muhammad and Muhammad, (2010) examined the impact of ICT on Organizational performance using primary data collected through in-depth Interviews and fields surveys of 48 manufacturing and 24 banking industry in Pakistan over the period 1994 through 2005. The data was tested using multiple linear regression model and ratio analysis. The conclusion of the research shows that ICT has positive impact on organizational performance of all the organizations investigated. By extension Beccalli, (2005) investigated whether investment in information technology (IT) influences the performance of banking; using a sample of 737 European banks over the period 1994 – 2000. Using simple correlation coefficients, the findings revealed a negative and statistically significant correlation between profit efficiency and information technology.

 The deployment of ICT is skyrocketing with many organizations using it in office automation, i.e. word processing, electronic mail, telecommunicating and teleconferencing. Other areas of ICT application are as follows: In business management, computerized database management system (DBMS) and management information system (MIS) are now making commerce and Industry pleasurable and ensuring decision making. Acharya, et al., (2008) examined the impact of web design features of a community bank’s performance using a sample of 55 community banks with online services in the five mid western states of the USA. The author utilized both primary and secondary data by applying multiple regression models. The results show that banks with higher usability of ICT perform significantly better than those with low ICT usability. Berger, et al., (2003) examined technological progress and its effects in the banking industry using data collected from the banking industry in the United States over the period 1967 to 2001. The author employed multiple regression model, and the findings revealed that improvements in costs of lending capacity due to improvements in “back –office” technologies, as well as consumer benefits from improved “front office” technologies suggests significant overall productivity increases in terms of improved quality and variety of Banking services. Malhotra and Singh, (2009) examined the implications of internet banking on the Indian banking industry using information drawn from a survey of 85 scheduled commercial banks websites, during the period June 2007, by applying multiple linear regression models.

Results revealed however, that profitability in the banking industry while offering internet banking does not have any significant association with their overall performance. Opera, et al., (2010) investigated the impact of technology on relationship marketing orientation (RMO) and business performance (BP) of the Nigerian banks using quantitative and qualitative data generated from 123 different bank branches in Port Harcourt, with 565 targeted respondents. The authors employed multiple regression models to analyze the data, and the findings revealed that the technology exists as a moderating variable in the RMO –BP relationships of the Nigerian banks. The study also recommended that banks should be technologically compliant in order to have high performance and lasting customer relationship. England, et al., examined the number of US banks offering internet banking and analyzed the structure and performance characteristics of these banks. They however, found no evidence of major differences in the performance of the group of bank offering internet banking activities compared to those that do not offer such services in terms of profitability, efficiency or credit quality.

Agboola et al, (2002) discussed the dimensions in which automation in the banking industry is manifested in Nigeria. They include: (i) bankers automated clearing services, which involves the use of magnetic ink character reader (MICR) for cheque processing. It is capable of encoding, reading and sorting cheques.

 (ii) automated payment systems; devices used here include automatic teller

Machine (ATM), plastic cards and electronic funds transfer.

 (iii) Automated delivery channels: These include interactive television and the Internet.

Akram and Hamdan, (2010) examined the effects of information and the authors used a sample of 15 banks to analyze the data obtained by applying multiple regression model and diagnostics test to check the normality and multi co linearity problems. The results of the study indicated that there is a significant impact on the use of ICT in Jordanian banks on the market value added (MVA) earnings per share (EPS), Return on Assets (ROA) and Net Profit Margin (NPM).

Kagan, et al, (2005) examined the impact of online banking applications on Community bank performance in the United States using data collected from 1183 banks operating in Iowa, Minnesota, Montana, North Dakota, and South Dakota. The authors employed an econometric model (Structural Equation Model) for the data analysis. The findings of the study revealed that online banking helps community banks improve their earning ability.

Studies on the effects of ATM on profitability provide evidence of cost savings and better services for customers. Survey of banks conducted by several authors have conducted investigation on the impact of ICT the banking sector of the Nigerian economy

Madueme, (2010) assessed the impact of information communication technology (ICT) on the efficiency of thirteen commercial banks in Nigeria using both primary and secondary data. The findings of the study revealed that information technology improved the efficiency of the banks. Alawneh and Hattab, (2009) assessed the value of e-business at the bank level in Jordan using a survey data collected from140 employees in seven pioneered banks. Based on simple multiple linear regressions analysis, their empirical findings showed that technology is found to have the strongest significant influence on bank performance. Kozak, (2005) analyzing the values of return on asset (ROA) and over the period of 1992 - 2003 found out that the value of the return on assets for the U.S, the banking sector has increased by 51 percent. This result suggests that IT improvements associated with extensive office networks and range of offered services have helped to generate additional revenues for banks. For the same period much smaller reduction of the non-interest costs has been achieved. It means the value of cost efficiency fell by 13 percent. This means that a huge number of diverse operations require higher IT investments and additional non-interest charges. In order to assess relationships between the degree of the IT progress, and the profitability (ROA) and cost efficiency, the regression analysis was used to achieve more precise statistical results, based on quarterly values obtained from the FDIC.

Return on Asset (ROA) and Return on Equity (ROE) as indices for Bank Performance Indicators Measuring bank performance is complicated, but one of the most reliable yardsticks is an institution's return on assets, or ROA and ROE have been widely used as measures of banks’ performance. Ombati et al, (2010) studied the relationship between technology and service quality in banking industry in Kenya using primary data drawn from sample of 120 customers using e-banking services within the Central Business District, Nairobi. The authors used descriptive statistics such as correlation analysis, percentages and means to analyze the data. The findings of the study indicated a direct relationship between technology and service quality in the banking industry. Similarly, Uppal, (2011) examined the growth of information technology in various bank groups in India using data collected over the period 2008 – 2009.The findings revealed that the growth of information technology led to high bank performance In another study Abdulsalam and Abdullahi, (2008) indicated that the competitive banking environment in Nigeria between 1999 and 2004 was very intense. The average profit elasticity (PE) for all the sampled banks put together is 184.1% implying that for the period under study, a bank in the industry can only increase profit if it can increase operating expenses by 184.1%. This percentage shows a fierce competition in the industry. As such, some banks operated inefficiently because they had to increase their operating expenses in order to cope with the fierce competition. The average ROA for all sampled banks put together was 2.50%, implying that only a fraction of banks’ management could use their assets efficiently to generate income. This supports the claim of the competition-inefficiency hypothesis that an increase in competition could cause a decline in bank efficiency (Weill, 2003 and Boot and Schmeits, 2005).

Return on assets (ROA) is a comprehensive measure of overall bank performance from an accounting perspective (Sinkey, Jr., 1992). It is a primary indicator of managerial efficiency. It indicates how capable the management of the bank has been converting the bank’s assets into net earnings. ROE measures accounting profitability from the shareholder’s perspective. It approximates the net benefit that the stockholders have received from investing their capital (Rose and Hudgins, 2006).

**Summary and Gap in Literature**

A careful review of the above reviewed literature shows that there exists a strong relationship between the Information and Communication Technological and financial performance of banks. This study intends to determine the impact of ICT on the financial and non financial performance of banks (return on asset and bank deposit). The reviewed literature showed that none of the studies measured both the financial and non financial performance of banks but only financial performance. This is the gap this study intends to cover.

From the reviewed related literature the studies were carried out in the past therefore, this study will analyze a more current work.

**Chapter three**

**Research methods/methodology**

**Introduction**

This chapter treated research design, nature and sources of data, area of the study, instrument for data collection, and population of the study, sample size of the study, model specification, validity and reliability of instrument and data analysis. They are as follows:

**3.1 Research Design**

 The study adopted ex-post facto research design. Ex-post facto research design is a category of research design in which the investigation starts after the fact has occurred without interference from the researcher. The researcher has no control over the variables and as such cannot manipulate them. The researcher used ex-post facto design because the data used for the study is already provided by a reliable source.

**3.2 Nature and Sources of Data**

In this study the researcher used secondary data. The data have been collected from the first bank’s annual reports from the bank’s website covering the period of 2012-2017.

**3.3 Instrument for Data Collection**

The data was collected from First Bank’s annual report from the bank’s website. The researcher extracted profit before tax, net revenue, total deposits, total loans, and total assets from the year (2012-2017). The data being extracted from the bank’s annual report is reliable.

**3.5 Description of Research Variables**

**Dependent Variable**

Bank performance is measured with bank deposit and return on asset (ROA). Banks deposit is the sum of deposit from customers and deposit from other banks. While return on asset is defined as net income after tax divided by total assets. The ratio is an indicator of managerial efficiency. In this study, Bank deposit and (ROA) are used as proxies on bank performance.

**Independent Variable**

Independent variables of the research are proxies for ICT deployments which include automated teller machine (ATM) and POS.

**3.6 Model Specification**

A regression model was used to analyze the data. The essence of regression is to use a mathematical equation to express the nature of the relationship existing between variables. In order to analyze the relationship between ICT deployment and bank performance, this study shall formulate two regression models, first to capture the relationship between POS and return on asset (ROA), second to capture the relationship between ATM and Bank deposit. The models were specified in their econometric forms. In analyzing data, the simple regression model will be employed which is:

**Model one for objective one:**

Y = b0 + b1X+ μ

Where:

Y = the dependent variable we are trying to predict

b0 = the intercept

b1 = the slope

X = the variable that we are using to predict Y (independent variable)

 μ = the error term.

The intercept b0 is the value of the dependent variable when the independent variable is equal to zero while the slope of the regression line (b1) represents the rate change in Y is dependent on X, the slope describes the predicted values of Y given X.

The above model can be represented as:

ROA= b0 + b1POS+ μ…………………………………………………….. Equ.1

Where

ROA- Return on Assets (dependent Variable) calculated by POS (independent variable).

**Model two for Objective two:**

BD= b0 + b1ATM+ μ………………………………………………….Equ.2

Where

BD – Bank Deposit (dependent variable) calculated by ATM (independent variable)

**3.7 Validity and reliability of instrument**

The researcher ensured that the instruments measure the concepts they are suppose to measure. The method of validity used was face and content validity corrections were made by an expert in banking and finance, and the corrections were taken.

**3.8 Data Analysis**

 The collected data through secondary sources were analyzed using a simple regression analysis and correlation analysis. This technique is used in order to test or determine the relationship between independent variable and dependent variable. Correlation co-efficient is also used to measure the strength and direction of the relationship between both variables.

**CHAPTER FOUR**

**PRESENTATION AND ANALYSES OF RESULT**

**Introduction**

This chapter will analyze the results using various statistical tests. Thus, the earlier posted hypothesis of this study will be tasted based on the empirical results.

**4.1 The Empirical Results**

As the performance of theoretical postulation is not guaranteed, but only an indicator of what we may expect in practice, empirical testing of the time series data of the variables is absolutely necessary.

**4.2 Regression Result of the First Model**

ROA= b0 + b1POS+ μ

In the regression result, the variables under consideration are return on asset as dependent variable whereas point of sale (POS) is the independent variable, the coefficient of the independent variable is 5.323207.

**Table 4.1 Data used for the analysis**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Year**  | **POS** | **ATM** | **ROA** | **BD** |
| **2012** | **18581** | **1865** | **0.07** | **2489047** |
| **2013** | **13283** | **2437** | **0.06** | **3011113** |
| **2014** | **15932** | **2151** | **0.06** | **3222004** |
| **2015** | **15704** | **2700** | **0.06** | **3115574** |
| **2016** | **7048** | **2779** | **0.06** | **3520299** |
| **2017** | **8656** | **2892** | **0.06** | **3808704** |

**Source:** First Bank’s annual report (2012 – 2017)

**The regression results are presented as follows:**

**Table 4.2 Coefficientsa (Regression result for Model One)**

|  |
| --- |
|  |
| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | .055 | .005 |  | 10.750 | .000 |
| Point of sales | 5.323207 | .000 | .586 | 1.446 | .022 |
| 1. Dependent Variable: Return on asset

**Source:** Compiled by the research from the result SPSS software (2018). |

From the regression result, the coefficient of point of sale (POS) is positive (5.323207) which indicates a positive effects on return on asset, that is to say an increase in the rate of use of point of sale will lead to increase in the bank performance on the average. Also the result shows that a unit increase in the use of point of sale will result to 5.323207 increases in the bank performance.

**4.3 Regression Result of the Second Model**

BD= b0 + b1ATM+ μ

In the regression result, the variables under consideration are bank deposit as dependent variable whereas automated teller machine (ATM) is the independent variable. The coefficient of the independent variable is 962.8496.

|  |
| --- |
|  **Table 4.3: Coefficientsa ( Regression result for Model Two)** |
| Model | Unstandardized Coefficients | Standardized Coefficients | T | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | 815576.427 | 746596.184 |  | 1.092 | .336 |
| Automated teller machine | 962.850 | 298.956 | .850 | 3.221 | .032 |
| a. Dependent Variable: Bank deposit |

**Source:** Compiled by the research from the result SPSS software (2018).

From the regression result, the coefficient of automated teller machine (ATM) is positive (962.850) which indicates a positive relationship with return on asset, that is to say an increase in the rate of use of automated teller machine will lead to increase in the bank performance on the average. Also the result shows that a unit increase in the use of automated teller machine will result to 962.850increases in the bank performance.

**4.4: Result of A prior Test**:

**Table 4.4:**

|  |  |  |  |
| --- | --- | --- | --- |
| **VARIABLES** | **PRE SIGN** | **POST SIGN** | **RESULTS** |
| POS | +VE | +VE | CWES |
| ATM | +VE | +VE | CWES |

CWES – conform with expected sign

From the table above, the result of the regression conforms to the expected sign, it is expected that increase in the use of point of sales will lead to increase in the bank performance which conforms to the expected sign. Also, it is expected that increase in the use of automated teller machine will lead to increase in the bank performance on the average which equally conforms to the expected sign.

**4.5 Evaluation of Research Hypotheses**

|  |
| --- |
| **Table 4.5: Correlation result for hypothesis one** |
|  | Return on asset | Point of sales |
| Return on asset | Pearson Correlation | 1 | .586 |
| Sig. (2-tailed) |  | .022 |
| N | 6 | 6 |
| Point of sales | Pearson Correlation | .586 | 1 |
| Sig. (2-tailed) | .022 |  |
| N | 6 | 6 |

**Source:** Compiled by the research from the result SPSS software (2018).

In the test of hypotheses in this study, the condition to accept null hypothesis (H0) is that the probability value must be greater than 5% (0.05) level of significance, if not accept H1, from the result in the table above, the probability value (0.022) of the correlation table is less than 5% (0.05) level of significance, hence we accept H1 and conclude that point of sale has positive and significant relationship with banks return on asset (ROA)

**Hypothesis Two**

|  |
| --- |
| **Table4.6 : Correlation result for hypothesis two** |
|  | Bank deposit | Automated teller machine |
| Bank deposit | Pearson Correlation | 1 | .850\* |
| Sig. (2-tailed) |  | .032 |
| N | 6 | 6 |
| Automated teller machine | Pearson Correlation | .850\* | 1 |
| Sig. (2-tailed) | .032 |  |
| N | 6 | 6 |
| \*. Correlation is significant at the 0.05 level (2-tailed). |

**Source:** Compiled by the research from the result SPSS software (2018).

In the test of hypotheses in this study, the condition to accept null hypothesis (H0) is that the probability value must be greater than 5% (0.05) level of significance, if not accept H1, from the result in the table above, the probability value (0.032) of the correlation table is less than 5% (0.05) level of significance, hence we accept H1 and conclude that automated teller machine (ATM) has positive and significant relationship with banks bank deposit (BD).

**4.6 Discussion of the Result**

1. The result of this study shows that point of sale has positive relationship on the return on asset, which implies that an increase in the use of point of sale will lead to increase in return to asset. Also from the test of hypotheses above, there is a positive correlation between point of sales and returns on asset, also in the correlation result, the probability value is less than 5% level of significance, hence H1 is accepted and conclusion was made that point of sale has positive and significant relationship with return on asset

2. The study shows that automated teller machine has positive relationship on the bank deposit, which implies that an increase in the use of Automated teller machine will lead to increase in bank deposit. Also in the second correlation result, the probability value is less than the 5% level of significance hence H1 is accepted, and conclusion was made that Automated teller machine has positive and significant relationship with bank deposit.

**CHAPTER FIVE**

**SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS**

**5.1 Summary of Findings.**

The overall result of the research work is that:

1. Point of sale has positive and significant impact on the return on asset. This implies that Banks should invest more on POS and create more awareness about it and how to use it so as to encourage more people to use it which on the long run will increase the performance of the Deposit money banks in Nigeria.
2. Also automated teller machine has positive and significant impact on bank deposits. This implies that Banks should invest more on ATM and create more awareness about it and how to use it so as to encourage more people to use it which on the long run will increase the performance of the Deposit money banks in Nigeria.

**5.2 Conclusions**

This study examined the impact of Information Communication Technology deployments on banks performance, a study of First Bank Nigeria Plc.

The finding of the study shows that Information Communication Technology deployments have a positive and significant impact on banks performance.

The empirical result suggest that since Information Technology Innovation has influenced deposit money bank in a positive way, by having increase on banks return on equity and bank deposit. Banks should invest on ICT for the provision of a transaction and payment system that is compatible with the demands of electronically interconnected global market place.

**5.3 Recommendations**

In the light of these findings the following recommendations are suggested, having seen the positive relationships that exist between the variables under study.

1. The management of the financial institutions should make more adverts on the use of POS and ATM so as to encourage more people to use it which on the long run will increase the performance of the Nigeria banking system.
2. More so, the cost procuring POS should be drastically reduced, to make it affordable to retailers, filling stations, and supermarkets, so as to promote the performance of the Nigeria banking system.

**Suggestions for Further Studies**

The researcher recommends the following areas for further studies; the researcher suggests that for effective conclusive study on relationship between ICT and financial performance, a replica study should be carried out in another industry for example the insurance sectors for comparison of results. The researcher suggests that in future studies be conducted using interview guide and involving the respondents into discussions. This would help the researcher direct the conversation toward topics and issues on ICT adopted and the challenges faced.

The sample size should also be increased to cover more management staff. Certainly acknowledging that financial institutions are currently adopting IC Tin their business operations, the researcher suggests that a further study be carried to establish whether adoption of ICT increases the demand for product or services from deposit money banks.

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**APPENDIX**

**RESULT OF ANALYSIS**

**Table 4.1 Data used for the analysis**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Year**  | **POS** | **ATM** | **ROA** | **BD** |
| **2012** | **18581** | **1865** | **0.07** | **2489047** |
| **2013** | **13283** | **2437** | **0.06** | **3011113** |
| **2014** | **15932** | **2151** | **0.06** | **3222004** |
| **2015** | **15704** | **2700** | **0.06** | **3115574** |
| **2016** | **7048** | **2779** | **0.06** | **3520299** |
| **2017** | **8656** | **2892** | **0.06** | **3808704** |

**Source:** First Banks Annual Report (2012 – 2017)

|  |
| --- |
|  **Table 4.2: Coefficientsa ( Regression result for Model One)** |
| Model | Unstandardized Coefficients | Standardized Coefficients | T | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | .055 | .005 |  | 10.750 | .000 |
| Point of sales | 5.323207 | .000 | .586 | 1.446 | .022 |
| 1. Dependent Variable: Return on asset

|  |
| --- |
| **Source:** Compiled by the research from the result SPSS software (2018).**Table 4.3: Coefficientsa (Regression result for Model Two)** |
| Model | Unstandardized Coefficients | Standardized Coefficients | T | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | 815576.427 | 746596.184 |  | 1.092 | .336 |
| Automated teller machine | 962.850 | 298.956 | .850 | 3.221 | .032 |
| a. Dependent Variable: Bank deposit

|  |
| --- |
| **Source:** Compiled by the research from the result SPSS software (2018).**Table 4.5: ( Correlation result for hypothesis one)** |
|  | Return on asset | Point of sales |
| Return on asset | Pearson Correlation | 1 | .586 |
| Sig. (2-tailed) |  | .022 |
| N | 6 | 6 |
| Point of sales | Pearson Correlation | .586 | 1 |
| Sig. (2-tailed) | .022 |  |
| N | 6 | 6 |

**Source:** Compiled by the research from the result SPSS software (2018).

|  |
| --- |
| **Table4.6 : (Correlation result for Hypothesis Two)** |
|  | Bank deposit | Automated teller machine |
| Bank deposit | Pearson Correlation | 1 | .850\* |
| Sig. (2-tailed) |  | .032 |
| N | 6 | 6 |
| Automated teller machine | Pearson Correlation | .850\* | 1 |
| Sig. (2-tailed) | .032 |  |
| N | 6 | 6 |
| \*. Correlation is significant at the 0.05 level (2-tailed). |

**Source: SPSS Output** |

 |
| **Table4.6: ( Correlation result for hypothesis one)** |
|  | Bank deposit | Automated teller machine |
| Bank deposit | Pearson Correlation | 1 | .850\* |
| Sig. (2-tailed) |  | .032 |
| N | 6 | 6 |
| Automated teller machine | Pearson Correlation | .850\* | 1 |
| Sig. (2-tailed) | .032 |  |
| N | 6 | 6 |
| \*. Correlation is significant at the 0.05 level (2-tailed). |

**Source:** Compiled by the research from the result SPSS software (2018).