**CHAPTER ONE**

**INTRODUCTION**

**1.1 Background to the Study**

Information has always played a prominent role in human activities. The robust development in science and technology has immeasurably increased the role of information in every facet of human endeavor. The rapid expansion of a mass of diversified information has given birth to the term “information explosion” and a rise to the scientific approach in information management and in the interpretation of the concept of information.

The concept has been broadened to include information exchanges not only among men but also among machines as well as the exchange of signals in the animal and plant worlds. The pace of change brought by new technologies has had significant effect on the way people live, work, and play globally.

Today’s business environment is very dynamic and experiences rapid changes as a result of creativity, innovation, technological changes, increased awareness and demands from customers. Business organizations, especially the banking industry of the 21st century operates in a complex and competitive environment characterized by these changing conditions and highly unpredictable economic climate with Information and Communication Technology (ICT) at the centre of this global change curve.

According to Harold and Jeff (2005), financial service providers must modify their traditional operating practice to remain viable in the 21st century and the decades beyond. Thus, ICT has emerged as a catalyst in the various industries of the world to aid the process and procedure required to ensure the realization of various organizational goals.

Indeed, the explosive growth in Information and Communication Technology (ICT) have narrowed digital divide and turned business sphere to electronic world (e-World). Specifically, technological innovations have led credence to global transformation of operational dimension of traditional banks over a decade ago. Internet technology has brought about a paradigm shift in banking operations to the extent that banks embrace internet technology to enhance effective and extensive delivery of wide range of value added products and services. Consequently, Nigerian banks, especially the commercial banks, recognized electronic banking to be the most effective means of distinguishing themselves from other competitors by investing in sophisticated technology (Auta, 2010).

In the last few years, Nigerian banks have been witnessing tremendous success in the delivery of a wide range of value added products and services through e-banking and there have been evidences of increasingly acceptance of ICT application by banks in Nigeria (Ayo, 2010).

Globally, several studies exist on the application of ICT in banking and its impact bank performance. However, some of these studies provided mixed evidences.

**1.2 Statement of the Problem**

Information and Communication Technology (ICT) has become a very important aspect of today’s Banking and financial services delivery in Nigeria in particular and the world at large. The competitive nature of banking business has necessitated the emphasis now placed on ICT. In the developed societies, ICT is generally believed to have dramatic influence and is seen as continually determining the competitive nature of virtually all business. In Nigeria, the application of ICT to banking operations has become a subject of concern to all banks operating in the country and indeed, a prerequisite for global competitiveness.

As a basic prerequisite in the development of banking business, customer satisfaction holds the potential for increasing an organization’s customer base, increase in the use of more volatile customer mix and increase in firm’s reputation. The consolidation exercise in Nigerian banking sector has left customers with a wide range of choice for products and services.

Study by Keremati (2007) has shown significant and positive correlation between ICT and customer satisfaction and profitability. Although, the Nigerian banking industry is relatively slow in the adoption and utilization of ICT.

In view of this, this study seeks among other things to access the contribution of ICT on banking sector performance in Nigeria using Zenith Bank as case study.

**1.3 Objectives of the Study**

The broad objective of the study is to access the contribution of ICT banking sector performance in Nigeria. Other specific objectives include:

1. To access the extent Zenith Bank has adopted ICT in their operations
2. To determine whether the adoption of ICT in Zenith Bank has led to improved customer services
3. To ascertain whether the adoption of ICT in Zenith Bank has led to increase in the profitability of the Bank

**1.4 Research Questions**

The following research questions have been designed to elicit the desired response to achieve the objectives of the study:

1. To what extent has Zenith Bank adopted ICT in her operations?
2. Has the adoption of ICT in Zenith Bank led to improved customer services?
3. How has the adoption of ICT in Zenith Bank led to improved profitability for the Bank?

1.5 **Research Hypotheses**

The following hypotheses were formulated and tested by the study:

Ho1: Adoption of ICT in Zenith Bank operations is not positive and significant

Hi: Adoption of ICT in Zenith Bank operations is positive and significant

Ho2: ICT adoption has not positively and significantly improved customer service in Zenith Bank Plc

Hi: ICT application has positively and significantly improved customer services in Zenith Bank

Ho3: ICT application has not positively and significantly improved the profits of Zenith Bank Plc

Hi : ICT application has positively and significantly improved profitability in Zenith Bank

1.6 **Significance of the Study**

The study will be of immense benefit to several groups of people both in the Nigerian banking sector and the academics.

1. **Bank Management**: First, the study will be of relevance to board members, bank management and staff in the banking sector in Nigeria espacially, for Zenith Bank. The aim of every bank is to achieve maximum level of returns on investment at the lowest possible cost and to secure a larger market share. The adoption of ICT is vital to the attainment of such goal.
2. **Bank Customers and other stakeholders**: customers, shareholders, employees and other stakeholders in the banking sector will benefit from the result of the study, in the sense that if the banks deploy ICT in their operations, it will impact positively on the quality of services rendered by the banks and the rate of returns on investment.
3. **Industry Watchers and Analyst**: Furthermore, the outcome of this research is also expected to be of significance to industry watchers and analyst. This group of people will utilize the platform of this study in their analysis on ICT use in the Nigerian banking sector. Similarly, the general public, through the findings of this research, will be better informed on ICT use in the Nigerian banking sector.

**1.6 Scope of the Study**

The research focused on the contributions of ICT on banking sector performance in Nigeria. The researcher made use of Zenith Bank as one of the foremost new generation banks in Nigeria. The Bank has branches in Enugu metropolis with a large customer base. The work focused on the staff and selected customers of the bank in Enugu metropolis.

**1.7 Limitation of the Study**

The researcher encountered some problems in the course of carrying out the research work. The first of these problems is lack of funds. This constraint limited the scope of the work. Time too was a constraint as the researcher was combining the research with academic work both of which required a great of deal of time.

**1.8 Profile of Zenith Bank Plc**

Zenith Bank Plc as one of the foremost new generation’s Banks in Nigeria has operated for over two decade. In other words, the Bank has grown older and with maturity comes wisdom from which the Bank makes decisions now largely influenced by customers’ best interest. Zenith Bank is reputed for its turnaround time in service delivery which the Bank pursues with great passion, energy and enthusiasm. Zenith Bank has a pool of professionals that are constantly encouraged to display their creativity, which would translate into greater wealth creation for customers.

As Nigeria improves its Information Technology (IT) infrastructure (telecom modernization) and celebrates GSM roll-out, Zenith Bank leading edge in IT makes the Bank one of the few that are well positioned to join the international Bank community in the next generation of E-Banking services. This is further enhanced by the bank’s sophisticated credit risk modeling and operational risk management system that seek to create a blend that not only grows customers’ business but strengthens it. The Bank’s credit management system stresses rational procedures and transparency. Zenith Bank is one Bank that sees technology as an enabler and as a generator of new opportunities while at the same time mindful of the disruptive power of digital revolution by its forward thinking and bench-marking of trends in technology with practical delivery on a highly automated platform that makes the bank unique.

In essence, Zenith Bank’s strength lies on its professional and highly dedicated workforce, its cutting IT infrastructure and quality of its management team. The bank’s leadership assets are manifested in the ability of its managers to combine strands of knowledge to create fast action value for the customers. The bank’s leadership combines vision with precision; using creativity, skills and ideas to expand their business reach into the lives of the customers by helping them fulfill their needs with speed and dedication.

The bank’s weakness lies in the external environment which is marked by unstable macro- economic environments, dearth of skilled manpower; uncertainty in political circles and insecurity of lives and properties. Threats to the bank comes from stifling competition from first generation and other emerging banks; the global financial crisis, the capital market crash which saw banks including Zenith lose some substantial sums in margin facilities and recently, the crisis in the Nigerian banking system which is assuming alarming and contagion effect even for healthy banks like Zenith.

However, Zenith Bank is leveraging on opportunities offered by expanded CBN corridor, the proposed deregulation of the downstream sector of the oil & gas which will see Zenith playing significant roles in downstream facilities and other consortia arrangements.

**CHAPTER TWO**

**REVIEW OF RELATED LITERATURE**

**2.0. Conceptual Reviews**

**2.1.1 Concept of ICT in Banking (E-Banking)**

The term ICT is synonymous with e-banking and both terms are used interchangeably in this study. E-banking is technically and intricately complex to define as it may be interpreted differently from different viewpoints. The versatility of e-banking as delivery multichannel increases the intricacy of being precisely defined in the literature. Nonetheless, several attempts have been made to offer succinct and all-inclusive meaning of e-banking.

The Basel Committee Report on Banking Supervision (2008), define e-banking or internet banking as the employment of a remote delivery channel in performing banking services. Kricks (2009) termed e-banking as automated delivery of new and conventional banking products and services directly to customers through electronic, interactive channels. Kricks (2009) is more emphatic in definition of e-banking as the emergence of e-banking has not relinquished traditional banking products and services but rather transformed traditional models to enhance quality service delivery, real time access, reduce operational cost and ultimately achieve maximum efficiency in banking operations.

While e-banking serves as automated, interactive channels by which customers conveniently gratify their demands for bank transactions, elsewhere the term is observed to be a larger concept than users’ satisfactions.

In addition, e-banking is viewed as the process by which a customer carries out banking transactions electronically without going to a brick-and-mortar institution (Simpson, 2002). In this case, e-banking is defined from the state of branchless or virtual banking indicating that geographical location in banking sphere seems to be less important as banks continue to adopt e-banking. However, the most commonly accepted definition of e-banking is the one given by Basel Committee Report on Banking Supervision (2008). The committee defined e-banking as “the provision of retail and small value banking products and services through electronic channels”.

In this study, e-banking is defined as the use of intelligent devices through internet to effect banking operations. Such intelligent devices may be mobile or immobile.

**2.1.2 Adoption and State of E-banking in Nigeria**

Several research have been conducted on the adoption, customers’ acceptance and choice of banks, and state of e-banking in Nigeria (Idowu *et al.,* 2002; Ezeoha, 2005 & 2006; Chiemeke et al, 2006; Agboola, 2006; Salawu et al, 2007). Chiemeke et al. (2005) examined the level of adoption of internet banking in Nigeria and found that internet banking was being offered at the basic level of interactivity with most of the banks having mainly information sites and providing little internet transactional services while Ayo et al (2010) reviewed the state of e-banking implementation in Nigeria and evaluated the influence of trust on the adoption of e-payment using an extended technology acceptance model (TAM), found that e-banking was increasingly adopted by Nigerian banks which was confirmed by Ovia (2001).

Auta (2010) empirically examined the impact of e-banking in Nigeria’s economy using Kaiser-Mayar-Olkin (KMO) approach and Barlett’s Test of Sphericity, found that Nigerian customers banking sector have no enough knowledge regarding e-banking services being offered in Nigerian banking sector. As far as Nigeria is concern, e-banking is extensively gaining prominence and the recent implementation of cashless policy by Central Bank of Nigeria increases its rate of adoption.

**2.1.3 E-banking vis-à-vis Traditional Banking in Nigeria**

Nigerian banks started adopting e-banking five years after US banks launched their electronic channels (Chiemeke et al, 2006). Before year 2000, all banks in Nigeria were virtually bricks and mortar banks. That is, they were operating manually and highly restricted to fundamental role of safekeeping. Hence, all commercial banks before this time were traditional banks. Customers went to their banking premises to effect transactions, though element of e-banking was present because customers used telephone to effect transactions. After this period, most of the commercial banks in Nigeria started adopting e-banking at almost the same time. Currently, all commercial banks in Nigeria are fully automated e-banking but the impact of e-banking on bank performance via-a-vis traditional banks is yet to be empirically validated.

**2.1.4 Electronic Banking Services**

Electronic banking in an offshoot of ICT, and it provides the classic and current means of banking. In other words, it is ICT that brought about electronic banking services that are conducted on the platform of mobile devices and wireless networks; also provision of banking and financial services with the help of mobile telecommunication devices. It has brought changes into the banking industry and is having major effects on banking relationships. It should be remarked that, almost all the 25 banks that survived the consolidation exercise of 2005 in Nigeria have adopted electronic banking in one form or another, although the adoption level was mostly at low at basic interactivity and functionality level.

There is abundant evidence that electronic banking system is expected to serve the purpose of decongesting banking hall, reducing waiting time, making customers more liquid and above all, ensuring a cashless society. The advent of electronic banking in Nigeria also brought in some products to make bank transaction easy and efficient, these products include amongst others Efficient Quick Service (EQS), electronic Payment System (e-PS), Telephone Banking (TeB), Electronic Purse Service (EPS), Smart Cards (SC), Automated Teller Machine (ATM), and Wireless Transfer (WT). However to ensure effective customer satisfaction; Nigerian banks must be willing to adopt latest technologies occasioned by advancement in ICT. Waiting for service is a fact of life; however excessive waiting can impair significant satisfaction thereby breeding a growing frustration associated with untimely delivery of services. With the current low rate of e-banking adoption, it is doubtful if Nigeria shall meet its set target of becoming a key player in ICT and e-banking by the year 2020. Be that as it may, customer satisfaction with banking services is affected by the perceived product/service quality and other related delivery process.

**2.1.5 Importance of ICT in Banking Operations**

Managers cannot ignore Information Systems because they play a critical role in contemporary organization. The application of information and communication technology concepts, techniques, policies and implementation strategies to banking services have become a subject of fundamental importance and concerns to all banks and indeed a prerequisite for local and global competitiveness. ICT directly affects how managers decide, how they plan and what products and services are offered in the banking industry. It has continued to change the way banks and their corporate relationships are organized worldwide and the variety of innovative devices available to enhance the speed and quality of service delivery.

Information and Communication Technology (ICT) is the automation of processes, controls, and information production using computers, telecommunications, software’s and other gadgets that ensure smooth and efficient running of activities. It is a term that largely covers the coupling of electronic technology for the information needs of a business at all levels. ICT has surpassed the role of support services or only electronic data processing; its fields of applications are slightly global and unlimited. Its devices especially the Internet and modern computer email facilities have further strengthened early modernizations like the telephone and fax. Other ICT devices include data recognition equipment, factory automation hardware and services, tele-computing and teleconferences 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 endeavours. This implies that it involves the application of principles to engage physical component in achieving an intended goal. The merging of computer and telecommunication after about four decades of applying computers to routine data processing, mainly in information storage and retrieval, has created a 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. This new technology has brought far-reaching revolution in societies, which has tremendously transformed most business (banking) scenes (Ovia, 2005). Irechukwu (2000) itemized some bank services that have been revolutionized through the use of ICT as including account opening, customer account mandate, and transaction processing and recording. Information and Communication Technology has provided self-service facilities (automated customer service machines) from where prospective customers can complete their account opening documents direct online. It assists customers to validate their account numbers and receive instruction on when and how to receive their cheque books, credit and debit cards. ICT products in use in the banking industry include Automated Teller Machine, Smart Cards, Telephone Banking, Electronic Funds Transfer, Electronic Data Interchange, Electronic Home and Office Banking.

Harold and Jeff (1995) contend that financial service providers should modify their traditional operating practices to remain viable in the 1990s and beyond, they claim that the most significant shortcoming in the banking industry today is a wide spread failure on the part of senior management in banks to grasp the importance of technology and incorporate it into their strategic plans accordingly. Woherem (2000) claimed that only banks that overhaul the whole of their payment and delivery systems and apply ICT to their operations are likely to survive and prosper in the new millennium. He advises banks to re-examine their service and delivery systems in order to properly position them within the framework of the dictates of the dynamism of information and communication technology. The banking industry in Nigeria has witnessed tremendous changes linked with the developments in ICT over the years.

Brücher et al. (2003) observe that ICT adoption will improve three critical domains which are efficiency, quality, and transparency in any organization**.** Agboola (2006) discussed the dimensions in which automation in the banking industry manifest in Nigeria. They include: Bankers Automated Clearing Services: Automated Payment Systems, Automated Delivery Channels. Ovia (2011) concluded 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 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.

Woherem (2000) revealed that Nigeria banks since 1980s have performed better in their investment profile and use of ICT systems, than the rest of industrial sector of the economy. An analysis of the study carried out by African Development Consulting Group Ltd. (ADCG) on IT diffusion in Nigeria shows that banks have invested more on IT, have more IT personnel, more installed base for PCs, LANs, and WANs and a better linkage to the Internet than other sectors of the Nigerian economy. The study, however pointed out that whilst most of the banks in the west and other parts of the world have at least one PC per staff, Nigerian banks are lagging seriously behind, with only a PC per capital ratio of 0.18.

Ovia (2005) opined that the revolution in ICT has made the banking sector changed from the traditional mode of operations to presumably better ways with technological innovation that improves efficiency. ICT can enhance efficiency via its use and in recent times banks have been encouraged by the rapid decline in the price of ICT gadgets. This has perhaps increased the bank level of ICT usage. The increase might have also been attributable to business environment that became relatively flexible to accommodate new forms of technological change as a result of reforms in the country.

According to Wali (2010) the relationship between ICT and the various organizational activities is similar to government and civil servants while Governments outlines policies and civil servants execute those policies. ICT acts as a tool for the actualization of various organizational activities in order to implement and enforce policies. Osabuohien (2008) established that while the gender of the bank officials does not affect efficiency in ICT use, factors such as age, educational qualification, computer literacy and type of ICT gadgets, were significant in influencing banks‟ intensity of ICT usage. Also ICT was found to impact positively the speed of banking service delivery, as well as productivity and profitability.

Banks should incorporate ICT into their strategic plans for effective performance in payment and delivery systems. This calls for proper analysis to determine the type, nature and extent of ICT products required for effectiveness and efficiency. It is imperative for bank management to intensify investment in ICT product to facilitate speed, convenience and accurate service. Studies over the years have identified the benefits of applying Information and Communication Technology (ICT) to customer’s satisfaction in banking activities. Given the role technology plays in the modernization of the banking sector, there is no doubt that the future of Nigerian banking industry lies heavily on its quick and fast adoption of ICT. Experiences from other countries revealed greater attention on the application of ICT to the activities of commercial banks and other financial institutions to facilitate their operations and bring about greater business advantages.

**2.2 Empirical Reviews - ICT and Banking Sector Performance**

A lot of studies exist in the literature on the performance of banks adopting e-banking. The reason is that e-banking has cost and revenue implications and hence on the profitability of banks adopting it (Guru & Staunton, 2012; Berger, 2013).

Onay et al (2008) examined the impact of internet banking on banks’ profitability of Turkish over the period (1995-2005). They found that internet banking starts contributing to banks’ ROE with a time lag of two years confirming the findings of Hernando et al. (2007) while a negative impact was observed for one year lagged dummy. On the other hand, Malhotra and Singh (2009) examined the impact of internet banking on performance and risk tracing the experience of Indian commercial banks during June 2007 and found that that the profitability and offering of internet banking does not have any significant association, which was correspond to the findings of DeYoung (2005). In addition, Mohammad and Saad (2011) examined the impact of electronic banking on the performance of Jordanian banks over the period (2000- 2010) using OLS regression and found that electronic banking has a significant negative impact on banks performance which was similar to the findings of Delgado et al. (2007).

Hernado et al. (2016) examined the impact of the adoption of a transactional web site on financial performance using a sample of 72 Spanish commercial banks over the period of 1994-2015 and found a positive impact on profitability, which was similar to DeYoung et al. (2014) who found that internet banks are more profitable than non-internet banks, though no specification were made as to time of significant reality.

From empirical review above, it is clear that there is mixed evidences on the impact of application of ICT on banks performance in the literature.

**CHAPTER THREE**

**RESEARCH METHODOLOGY**

* 1. **Research Design**

Research design according to Asika (2004) “is the specification of procedures for collecting and analyzing the data necessary to help solve the problem at hand such that the difference between the costs of obtaining various levels of information associated with accuracy is maximized”.

The research design requires the specification of procedures. These procedures include decision on what information to generate, the data collection method, the objects to be measured and the way in which the data are to be analyzed. It must also ensure that the required data are collected accurately and economically.

The survey research method is used for the purpose of the study. Survey research design is concerned with identifying real nature of problems and formulating relevant hypothesis to be tested. This research design was chosen because of its merits, which include:

* 1. It gives summary of the main issue
  2. Sources of information could be gathered through literature search, i.e. secondary data comprising works of various experts on the subject
  3. It is possible to use experience survey, i.e. meeting knowledgeable employees of various level in the selected organization.
  4. **Sources of Data**
     1. **Primary Sources of Data**

The primary source of data for the work is the questionnaire. These were constructed using open and closed ended questions to elicit the desired answers from the respondents. The questionnaire was complemented by oral interviews with few respondents to validate some of the responses in the questionnaire.

* + 1. **Secondary Sources of Data**

Secondary sources of data were mainly through reviews of related literature in learned journals, internets, libraries and textbooks on ICT.

* 1. **Population of the Study**

The population of the study consists of the entire staff of the Six (06) Zenith Bank Branches in Enugu metropolis, Enugu State. The population also includes customers of the Bank within Enugu metropolis. Although it is technically possible to make use of the entire population of study, it might not be the ideal thing to do given the large number of the population and the cost in terms of time and resources that will be involved. Thus the researcher used a sample of the population for the study.

**3.4 Determination of Sample Size**

The sample for the study will be 135 members of staff of the bank. Since it will be costly for the researcher to reach the entire population, the Taro Yamane formula will be used to determine the sample size.

The Taro Yamane has the formula given below:

n =

\_\_\_\_\_\_\_

1 + N(e)2

Where,

n = sample

N = Population = 135

e = error of tolerance (at 95% confidence level)

1 = statistical constant

n =

\_\_\_\_\_\_\_\_\_\_\_

1 + 135(0.05)2

n =

\_\_\_\_\_\_\_\_\_\_\_

1 + 0.3

n =

\_\_\_\_\_\_\_\_\_\_\_

1.3

n =

This sample size was subdivided into 40 management staff and 63 supervisors which were selected through simple random sampling technique.

**3.4.2 Sample Size for Bank Customers**

Because of the inherent problem associated with determining the exact size of the required sample, the researcher conducted a pilot survey to find out the proportion of bank account holders that have account with Zenith Bank randomly from selected groups. It was observed from the preliminary study that in every 10 bank account holders sampled, 5 (or 50%) agreed that they have Zenith Bank account while 5 (or 50%) did not have account with Zenith Bank.

Thus, the sample for Zenith Bank customers was derived using Topsman formula (Osuagwu, 2002):

n = Z2pq

e2

Where,

n = required sample size

Z = desired confidence level, 90% for the study (1.96)

p = probability of positive response (.50%)

q = probability of negative response (.50%)

e = limit of error allowable, 5% (or 0.05) for the study

Thus, n = (1.96)2 x (.50) x (.50)

(0.05) 2

n = (3.8416) (0.09)

0.0025

n = 0.345744

0.0025

n = 138.29

n ~ 138

**3.5 Sampling Technique**

Because of the nature of the study population which does not require any strict randomness, the researcher adopted the Convenience sampling technique. According to Asika (2004) the accidental or convenience sampling method is appropriate where the researcher is particularly interested in having a feeling or an idea of a phenomenon of interest without any guarantee of randomness. In other words, the elements of the population do not have the privilege of having equal chance or known probability of being selected in the sampling process. The non-probability does not however, invalidate the result of the sample.

The same convenience sampling technique was adopted in administering questionnaires to the respondents.

To collect the relevant data, 40 questionnaires were administered to top management staff of the bank, out of which 32 were properly completed and returned. Also, 63 questionnaires were administered to supervisors, out of which 51 was properly completed and returned. Again, 138 questionnaires were administered to Zenith Bank customers, out of which 75 were returned. The researcher used some research assistants to administer the questionnaire to the respondents.

**3.6 Instrument for Data Collection**

The research instrument used to collect the data was mainly the questionnaire. The questionnaire was constructed by using both open-ended and closed-ended questions.

**3.7 Questionnaire Allocation and Administration**

In order to administer the questionnaire to the bank customers, the researcher divided Enugu Metropolis into five major zones for administrative convenience only.

The various zones are:

Zone 1: Asata, Ogui New Layout

Zone 2: GRA, Abakpa, Trans Ekulu

Zone 3: New Haven, Independence Layout

Zone 4: Uwani, Achara Layout, Idaw River Layout, Awkunanaw

Zone 5: Coal Camp, Iva Valley

**3.8 Testing the Reliability and Validity of Data Collection Instrument**

To test the reliability and validity of the questionnaire as a data collection instrument, the researcher carried out a pilot survey of the population by administering structured questionnaire. The questionnaire was distributed among some respondents in the population to assess their degree of comprehension of the questions in the questionnaire. Thereafter, the researcher carried out an analysis of their responses in the pilot survey. Some of the ambiguities detected were clarified. This pilot test and the clarifications that followed assured the researcher that valid results would be obtained during the real survey.

**3.8 Method of Data Treatment and Analysis**

The researcher organized the data collected into tables, frequencies and percentages.

**CHAPTER FOUR**

**PRESENTATION AND ANALYSIS OF DATA**

**4.1 Return of Questionnaire**

The questionnaire distributed among the staff and customers of Zenith Bank were returned and data collated therein are presented in the tables below:

**Table 4.1 Return of Questionnaire by Zenith Bank Employees**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Unit | Senior | Percentage | Supervisors | Percentage |
| Customer Service | 4 | 12.5 | 8 | 15.7 |
| Funds Transfer | 6 | 18.6 | 5 | 9.8 |
| Treasury | 4 | 12.5 | 9 | 17.6 |
| Operations | 6 | 18.6 | 10 | 19.9 |
| Marketing | 6 | 18.6 | 9 | 17.6 |
| Cash & Teller | 4 | 12.5 | 7 | 13.5 |
| System Admin | 2 | 6.2 | 3 | 5.9 |
| Total | 32 | 100 | 51 | 100 |

Source: Field Survey, 2018

Table 4.1 showed that out of a total of 40 questionnaires administered to the management staff of Zenith Bank, 32 were returned while out of the 63 copies administered to the supervisory staff of the bank, 51 were returned by them.

**Table 4.2 Return of Questionnaire by Bank Customers**

|  |  |  |  |
| --- | --- | --- | --- |
| **Area/Zone** | **Number Distributed** | **Number Returned** | **Percentage** |
| **Zone1**: Asata, Ogui New Layout | 25 | 20 | 14.5 |
| **Zone 2**:GRA, Abakpa, Trans Ekulu | 20 | 15 | 10.9 |
| **Zone 3**:New Haven, Independence Layout | 30 | 15 | 10.9 |
| **Zone 4**:Uwani, Achara Layout, Idaw River Layout, Awkunanaw | 40 | 20 | 14.5 |
| **Zone 5**:Coal Camp, Iva Valley | 23 | 5 | 3.6 |
| Total | 138 | 75 | 54.4 |

Source: Field Survey, 2018

Table 4.2 shows that out of 138 questionnaires distributed to the customers of Zenith bank in Enugu metropolis, only 75 or 54.4 percent of them were returned. Therefore, 75 respondents’ data were used for presentation and analysis in the work.

**4.2 Presentation of Data Obtained from the Respondents**

To elicit the required data from this question, the researcher structured questions items 6, 7 and 8 for the employees, which sought to ascertain whether the bank has adequate technological capacities to exploit the benefits of ICT in the bank’s operations. The results of the data gathered from these questions are presented in tables below:

**Table 4.3**

**Are there sufficient technological capacities in Zenith Bank to exploit the benefits of ICT**

|  |  |  |
| --- | --- | --- |
| Alternative Response | Frequency | Percentage |
| Yes | 80 | 96.4 |
| No | 3 | 3.6 |
| Total | 83 | 100 |

Source: Field Survey, 2018

Table 4.3 shows that 80 or 96.4 percent of the respondents who are employees of the bank agreed that the bank has sufficient technological capacities to exploit the benefits of ICT in the bank’s operations while 3 or 3.6 percent of the respondents were of the view that bank do not have sufficient technological capacities to exploit the benefits of ICT.

The data gathered from the customers of the bank on the same subject are presented in table 4.4 below. Question items 12 and 13 were used.

**Table 4.4**

**Are there sufficient technological capacities in Zenith Bank to exploit the benefits of ICT**

|  |  |  |
| --- | --- | --- |
| Alternative Response | Frequency | Percentage |
| Yes | 73 | 97.3 |
| No | 2 | 2.7 |
| Total | 75 | 100 |

Source: Field Survey, 2018

Result from Table 4.4 shows that 73 or 97.3 percent of the customers surveyed agreed that there are sufficient technological capacities in Zenith bank to exploit the benefits of ICT. However, 2 or 2.7 percent of the customers surveyed believed the bank did not sufficient technological capacities to exploit the benefits of ICT.

**Table 4.5**

**Customers Assessment on the extent Zenith Bank adopted ICT in her operations?**

|  |  |  |
| --- | --- | --- |
| **Alternative Response** | **Frequency** | **Percentage** |
| To a large extent | 64 | 85.3 |
| To a less extent | 6 | 8.0 |
| Undecided | 5 | 6.7 |
| Total | 75 | 100 |

Source: Field Survey, 2018

Table 4.5 shows that out of a total of 75 customers surveyed 64 or 85.3 percent were of the view that the bank has deployed ICT to a large extent in her banking operations while 6 or 8 percent believed the bank has deployed ICT only to a less extent. However, 5 or 6.7 percent of the respondents were undecided on the subject.

The response of the employees on the subject is presented in Table 4.6 below.

**Table 4.6**

**Employees Assessment on the extent Zenith Bank has adopted ICT in her operations?**

|  |  |  |
| --- | --- | --- |
| **Alternative Response** | **Frequency** | **Percentage** |
| To a large extent | 80 | 96.4 |
| To a less extent | 3 | 3.6 |
| Undecided | 0 | 0 |
| Total | 83 | 100 |

Source: Field Survey, 2018

Results from Table 4.6 shows that 80 or 96.4 percent of the staff were of the opinion that the bank has deployed ICT to a large extent while 3 or 3.6 percent believed the bank has only deployed ICT to a less extent.

**Table 4.7**

**Customers Assessment on the extent Zenith Bank’s adoption of ICT has led to improved customer service?**

|  |  |  |
| --- | --- | --- |
| **Alternative Response** | **Frequency** | **Percentage** |
| To a large extent | 70 | 93.3 |
| To a less extent | 3 | 4.0 |
| Undecided | 2 | 2.7 |
| Total | 75 | 100 |

Source: Field Survey, 2018

Table 4.7 shows that 70 or 93.3 percent of the total customers surveyed agreed that the services of the bank has improved to a great extent since the adoption of ICT while 3 or 4 percent of the customers did not think so. However, 2 or 2.7 percent of the customers were undecided.

**Table 4.8**

**Has the adoption of ICT in Zenith bank led to increased profitability of the bank?**

|  |  |  |
| --- | --- | --- |
| **Alternative Response** | **Frequency** | **Percentage** |
| Yes | 83 | 100 |
| No | 0 | 0 |
| Total | 83 | 100 |

Source: Field Survey, 2018

Result from Table 4.8 shows that all the employees of the bank agreed that there has been increased profitability in the bank since the deployment of ICT in the bank’s operations. Moreover, a cursory look at Zenith bank audited statement for the last five years (2000 – 2014) shows that the bank’s profits have been on upward trajectory over these years.

**Table 4.9**

**Structural problems that inhibit the adoption of ICT by the banking sector in Nigeria**

|  |  |  |
| --- | --- | --- |
| **Alternative Response** | **Frequency** | **Percentage** |
| High cost of ICT Equipment | 43 | 33.5 |
| High Cost of Maintenance | 22 | 1.3 |
| Lack of Skilled/Technical Manpower | 26 | 16.4 |
| Frequent Power Outages | 30 | 18.9 |
| Low ICT Literacy of bank customers | 22 | 1.4 |
| Others | 15 | 9.5 |
| Total | 158 | 100 |

Source: Field Survey, 2018

The result from table 4.9 shows that a total of 43 respondents or 33.5 percent of the respondents comprising customers and bank employees were of the opinion that high cost of ICT equipment inhibits the adoption and deployment of ICT by banks in Nigeria. 26 of the respondents or 16.4 percent believed lack of skilled and technical manpower inhibits the adoption and deployment of ICT by the banking sector in Nigeria while 22 or 1.3 percent of the respondents believed that high cost of maintaining the ICT equipments inhibit the banks in adopting and deploying ICT in their operations. Moreover, 30 or 18.9 percent of the respondents cited frequent power outage which increases the operational costs inhibit banks in adopting and deploying ICT while 22 or 1.4 percent of the respondents were of the view that low ICT literacy among banks customers inhibits the adoption and deployment of ICT by banks in Nigeria.

**4.2 Test of Hypotheses**

In this section, the three hypotheses proposed will be tested with chi-square statistical technique at 5% level of significance.

**Hypothesis One**

Ho: Adoption of ICT in Zenith Bank operations is not positive and significant

H1: Adoption of ICT in Zenith Bank operations is positive and significant

The test statistic is X2 = Σ(0 – E)2

E

Level of significance used is 5% i.e. α 0.05

The degree of freedom is d.f. = k – 1 = 3 – 1 = 2

The critical value is X2 = 7.81

Computation of the test statistic

**Table 4.10 Respondents Agreement as to adoption of ICT in Zenith Bank is positive and significant**

|  |  |  |
| --- | --- | --- |
| **Alternative Response** | **0** | **E** |
| To a large extent | 140 | 52.7 |
| To a lesser extent | 10 | 52.7 |
| Undecided | 8 | 52.7 |
| **Total** | **158** | **158** |

X2 = Σ(0 – E) 2

E

X2 = (140 – 52.7) 2 + (10-52.7) 2 + (8 – 52.7) 2

52.7 52.7 52.7

59.1 + 0.27 + 67.1

X2 = 126.5

126 > 7.81

**Decision:** The result showed that the value of calculated X2 is greater than table value of X2. We therefore reject the null hypothesis and accept the alternative hypothesis. Thus, we accept that the adoption of ICT in Zenith Bank operations is positive and significant.

**Hypothesis 2**

Ho: ICT adoption has not positively and significantly improved customer service in Zenith Bank Plc

H1: ICT adoption has positively and significantly improved customer service in Zenith Bank Plc

The test statistic is X2 = Σ(0 – E) 2

E

Level of significance used is 5% i.e. α 0.05

The degree of freedom is d.f. = k – 1 = 2 – 1 = 1

The critical value is X2 = 3.84

Computation of the test statistic

**Table 4.11 Respondents Agreement as to whether adoption of ICT has improved customers service in Zenith Bank**

|  |  |  |
| --- | --- | --- |
| **Alternative Response** | **0** | **E** |
| To a large extent | 70 | 25 |
| To a lesser extent | 3 | 25 |
| Undecided | 2 | 25 |
| **Total** | **75** | **75** |

X2  = Σ(0 – E) 2

E

X2 = (70 - 25) 2 + (3 -25) 2 + (2 -25) 2

75 75 75

X2 = 4.8 + 3.5 + 1.2

X2 = 9.56

X2 ~ 9. 6

X2 = 9.6 > 3.84

**Decision:** The result showed that the value of calculated X2 (at 9.6) is greater than table value of X2. We therefore reject the null hypothesis and accept the alternative hypothesis. Thus, we accept that the adoption of ICT has positively and significantly improved customer service in Zenith Bank Plc.

**Hypothesis Three**

Ho: ICT application has not positively and significantly improved the profits of Zenith Bank Plc

H1: ICT application has positively and significantly improved the profits of Zenith Bank Plc.

The test statistic is X2 = Σ(0 – E) 2

E

Level of significance used is 5% i.e. α 0.05

The degree of freedom is d.f. = k – 1 = 3 – 1 = 1

The critical value is X2 = 3.84

Computation of the test statistic

**Table 4.12 Respondents Agreement as to whether ICT adoption has improved the profitability of Zenith Bank Plc**

|  |  |  |
| --- | --- | --- |
| **Options** | **O** | **E** |
| Yes | 83 | 41.5 |
| No | 0 | 41.5 |
| **Total** | **83** | **83.0** |

X2  = Σ(0 – E) 2

E

X2 = (83 – 41.5) 2 + (0 – 41.5) 2

83 83

X2 = 20.75 + -8.61

X2 = 12.14

X2 ~ 12

X2 = 12 > 3.84

**Decision:** We can see that the value of calculated X2 (at ~ 12) is greater than table value of X2 (at 3.84). We therefore reject the null hypothesis and accept the alternative hypothesis. Thus, we accept that ICT application has positively and significantly improved the profits of Zenith Bank Plc.

**CHAPTER FIVE**

**SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS**

**5.1 Summary of Findings**

The following findings were made by the study:

* + 1. The adoption of ICT in Zenith Bank operations is positive and significant.
    2. The adoption of ICT has positively and significantly improved customers service in Zenith Bank Plc.
    3. The adoption of ICT application has positively and significantly improved the profits of Zenith Bank Plc.

**5.2 Conclusion**

The liberalization of the banking industry in Nigeria in the early 1990s led to a stiff competition among banks and the insatiable desire of customers for excellent banking services meant that it is only banks that can deliver the desired satisfaction driven by appropriate ICT that will stand the test of time.

**5.3 Recommendations**

1. Management of banks should ensure compliance with evolving ICT in the industry and further adopt the initiative of investing in areas of improving or inventing new technologies to ensure efficient delivery of services.
2. As the customer is the essence of organizational being, managers must ensure that they identify the needs of customers and develop appropriate product/services to meet such needs. This is so because this study has shown that there is a strong relationship between the level of ICT and customer satisfaction. That is, if perceived quality of ICT is high and efficient in delivering high quality services, customers are bound to be satisfied, have a positive word-of-mouth about the organization, make more referrals, which may culminate to more profit for the bank.
3. Evidently, ICT is at the core of customers’ satisfaction in the industry. That is to say, presently, bank customers are satisfied only when the services offered are effective and high through ICT deployment and utilization.

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