**CHAPTER ONE**

1. **INTRODUCTION**

In advanced economies, technology has played a key role since 1960’s. The role of computer in financial world and other spheres of life cannot be over-emphasized or, be over-looked and this has made it inevitable as the whole world has been turned into a global village. But in developing countries on the other hand, technology has relatively been poorly deployed in customer services. Nevertheless, bank even in the strategic role of technology driven services, played in the efficient and cost effective service delivery. Investments in innovative banking technology worldwide have therefore grown exponentially in past decade. In Nigeria, deregulation of the baking industry in 1986 saw banks deploying technology as the chief competitive weapon to achieve significant market shares in the crowded banking industries. This brings a good decision on the other hand leads to effective performance of managerial functions which should in turn lead to the attainment of the organization’s goal. The vital ingredients for effective information apart from accuracy must also include uniformity, timeliness, reliability, clearness and must be promptly transmitted to the recipient and same time must be relevant to the area of specification. Therefore, this presentation reviews the enabling environment for technology driven bank services in making effective planning, organization and implementation of the policies of the organization. Introduction of computer networks similarly created a new banking culture that granted customer flexibility in services delivery through wider choice of transaction outlet give bank’s networks of branches. Electronic banking system was an innovation into the banking industry. It was introduces to ease the problem of; Casting delay in transaction Clearing Transfer of fund Accuracy in information from one location to the other It can be seen that before the introduction of computer in the banking industry, a lot of problems were faced in processing transaction in various sections of the bank, but with computerization, all these problems have been reduced or eased off. The system has been embraced worldwide because it is easier and convenient for both the sender and receiver. This has made most commercial banks joined in giving Western Union Money Transfer services to people within Nigeria. Computerization or electronic banking has even helped in introducing electronic cards known as pay cards (Credit and Debit Cards). This was introduced to avoid the risk of carrying cash around. This electronic card is loaded with any amount in alternative to physical cash with ease. The electronic pay card has gone a long way in its establishment because people now prefer it to holding physical cash. In fact computer has come to stay and has become a vital part in our society because it has the capacity of extending men’s power to perform mental tasks and provide imagination services.

**1.1. STATEMENT OF PROBLEMS**

Before the introduction of computer in banking operation, the banking industry was faced with a lot of problems that made some people to lost interest and confidence in them (banks). These problems are as follows; Delay in responses and services delivery time Improper handling, storing and keeping of date and records Inaccuracy/errors in data entries and interests computations. Transmission of fund from one place to another, Cash holding movement, Delays in clearing cheques, Poor monitoring of accounts leading to fraud In order to eradicate or minimize al these problems, and foster confidence in banking industry, computerization was introduced to overcome all these problems and build confidence back into the industry and the people.

**1.2. OBJECTIVE OF THE STUDY**

The aim of this study is to examine the importance of application of computer to banking operations with regards to efficiency, profitability, effectiveness of computer operation to the realization of the set goals in the banks and economy as a whole. Also this study or research will evaluate how then bank costumers have benefited from the computerized banking system.

**1.3 SIGNIFICANCE OF THE STUDY**

Computers have replaced the crude mechanical and manual system of recording, analyzing and typing of banking information. New greater qualities of data can be processed at greater speed and accuracy.

**1.4. STATEMENT OF HYPOTHESES**

**HYPOTHESIS I** Ho: The computerization of banking industry has not contributed the increase in banking performances and efficiency in terms of profit.

**Hi:** Computerization of banking industry has contributed to the increase in banking performances and efficiency in terms of profit.

**HYPOTHESIS II** Ho: Computerization of Nigerian banking industry has not led to time saving in bank services and transactions.

**Hi:** Computerization of the Nigerian banking industry has led to time saving in banking services and transactions.

**1.5 SCOPE OF THE STUDY**

The Scope of this study is on the assessment of impact of the computer on banking operations. This tends to provide enabling environment for technology driven bank services in making effective planning, organization and implementation of the policies of the organization through computer. Introduction of computer networks similarly created a new banking culture that granted customer flexibility in services delivery through wider choice of transaction outlet given banks networks of branches. However, students in New campus, Bayero University Kano with bank account will be studied to particularly appreciate the performances and problems encountered by this modern technology.

**1.6 LIMITATION OF THE STUDY**

An investigation of this kind is faced with several limitations such as; Time Constraints: This pose a serious problem to the research since the project is expected to be completed within a space of time. Poor financing: Financing this project has been a trying experience for the researcher because of the poor economic condition in the country. The researcher was unable to travel to many places of interest in order to get comparable data or information for this research work. Natural Factor such as (Rainfall) hindered the researcher’s movement in her bid to distribute the questionnaires to respondents. Not having access to some relevant data that would promote or improved the existing quality of this work due to poor audience by respondents, unreliable statistics and bias information from respondents.

**1.7 DEFINITION OF TERMS**

**COMPUTER:** According to Opara et al (2006:66), computer is an electronic device that is capable of solving problems by accepting data, performing prescribed operations on the data accepted and supplies the results of those operations.

**AUTOMATED TELLER MACHINE (ATM):** Is cash disposer that is designed to enable customer enjoy banking services without necessarily going into contact with bank cash teller. **BANK:** Is a financial institution where money and other valuable items are kept for safe custody.

**BOOK KEEPING:** This involves keeping records of all financial transactions.

**E-BANKING:** This is a natural fall out of intense competition to the financial markets. It also poses new challenges for country authorities in regulating and supervising financial system and in designing and implementing microeconomic policy.

**CUSTOMER SERVICES:** This unit is always at the entrance as not to course inefficiency. Its main function is to open records and guide the customers on their enquiry.

**FRAUD:** A method of illegally getting money from someone often by using clever and complicated methods.

**HARDWARE:** This is the computer components, that is the computer itself and other devices.

**MANAGEMENT:** The act or skill of directing and organizing the work of a company or organization.

**PROGRAM:** A set of instruction given to a computer to make it perform an operation.

**1.8 METHODOLOGY**

The methodology used for the purpose of this research work is direct questionnaires.

The Research design used for the research work is the survey research.

The survey research is the most appropriate because the researcher will investigate the behavior, opinion or rather manifestation of a group of staff, shareholders of the banks by questioning them individually. The choice of this type of research method is therefore justifiable due to the fact that it allows wider coverage of accessible population.

**CHAPTER TWO**

1. **LITERATURE REVIEW**

The Nigerian Banking system is within the broader financial system of the country. It is the hub of the entire financial system and has undergone remarkable changes in terms of ownership, structure, regulations, department and breath of operations as well as instruments employed since the first survived banking institution was established in 1894. (Kanu: 2013, 227). Kanu further stated that the banking system mobilizes savings from the surplus units and channels them to the deficit units of the economy for productive investment thereby enhancing the process of economic development. According to Kanu (2013: 246), commercial banking was the oldest of all the baking institutions in Nigeria with the first commercial bank being established in 1892, when the African Banking Corporation was established in Lagos. Probably due to the good performance of the African Baking Corporation, another bank opened its branch office in Lagos in 1894. The Bank of British West Africa Limited now First Bank of Nigeria PLC absorbed the banking business of both Elder Dumpster Company and Africa Banking Corporation until 1916. In 1917, the Barclay Bank (Dominion Colonel and Overseas) DOC now Union Bank was established. Other expatriate owned banks were later introduced in Nigeria such as United Bank for Africa UBA etc. the rise of indigenous bank in Nigeria was as a result of unsatisfactory banking facilities and services which Nigerians received from the expatriate bank. Their operations were against Nigerians both in terms of personal icon receipt from the banks and in respect of the development of the Nigeria economy. However, between 1954 and 1960, a total of 25 indigenous banks were established and many of them had either failed or surrendered their license. The increase educational awareness and the alarming rate of bank failure of the early 1950’s brought about the growing need for Central Bank. A Central Bank is very different in both organization and functions when compared to other types of banking institutions. It is a government owned bank and each country owns only one Central Bank which is the government representative in the banking system. Any country’s Central Bank performs major functions and activities, which are aimed at achieving the main objective for which is was established. It also works in collaboration with other institutions in implementing macro-economic policy measures designed to facilitate efficient management of the economy. Kanu (2013:228). The Central Bank of Nigeria was established in 1958, it did not start full operation until July 1959. Nigerian Banking industry has witnessed the greatest expansion since mid-eighties; there were a total of 81 insured banks, 47 commercial and 34 Merchant banks operating in the country in 1989 to 1996. The level of distress in the financial sector led to restructuring the financial sector. The restructuring exercise began with the increase in the minimum paid-up capital of both Merchant and Commercial banks amendment of the CBN Decree No 24 and Bank and Other Financial Institutions Decree 25 (BOFID), both of 1991 were amended in 1997, 1998 and 1999.

**2.1. EVOLUTION OF COMPUTER TECHNOLOGY**

An attempt to automatic computer dated back to the beginning of recorded history but the basic conceptual breakthrough in the design of computers coursed at least hundred years before the necessary technology advances were made. (Ohimia: 2010). The first true calculating machine was devised by Blaise Paschal, a French mathematician in 1642, the machine was only performing multiplication by repeated additions, and division by repeated subtraction. The further development to this was made by Professor Niken Wirth in Zurich and the programming language used was called Paschal. In 1822 Charles Babbage constructed a machine called Difference Machine. And in 1932, he further designed what he called Analytical Engine. This analytical engine was mechanical equipment which had the ability to store date and perform extensive arithmetic operation on the date. It was not until the early 1940’s that the time electronic computer appeared. This was the ABC (Atlan Soft Being Computer) built by U.S Mathematician John U. Atlan Soft. The development of the present age computer technology growth is in five phases called the generations of computer. The ENIAC computer (Electronic Numerator Integrator and Calculator) designed and build in 1946 by Prosper J. Eckert and John W. Manchleys indeed ushered in the first generation of modern day computer, which utilized the vacuum tube for the storage of data. However, the vacuum caused tremendous heat problem and was never completely reliable; programming was principally done in machine language. The second generation saw the replacement of the vacuum tube with transistor. These set of computers were introduced around late 1950’s. They used transistors and were smaller, faster, cheaper, reliable and vitally free from heat problems unlike the first generation computers. Programming was done using both machine and symbolic coding. The third generation computers were produced around 1946 and their main components were integrated circuits. These generations of computers were faster, smaller and cheaper than the first and second generation computers. The use of high level language and wide range of optional peripherals were also introduced. Fourth generation computer were produced during the 1970’s. They have large scale of integrated circuits called silicon chips. Fifth generation computers are micro computers, which are small, cheap, handy and simple to operate. The use of pitman typewriters keyboard was introduced. This is known as enhanced keyboard because it incorporated functional keys (F1-F12) and other special characters which are not part of the typewriter keyboard.

**DEFINITION OF COMPUTER**

Computer is defined as an electronic device that is capable of solving problems by accepting data, performed prescribed operations on the data accepted and supplying the results of those operations. That is to say that computer is an electronic device, which can accept data, process the data and produce result/information automatically under program control. It is viewed also as an instrument which possesses analytical intelligence. Finally, it can be said to be a calculator or machine or apparatus, mechanical, electrical or electronic for carrying out most special complex calculations dealing with numeric data or which store item of the information in a large organization.

**Types of Computer**

Computers can be grouped according to into different types based on their used and constructions. They include;

**Analog:** Analog computers operate on data which continuously change physical qualities such as electrical voltage, electrical resistance, notations and temperatures by performing physical processes on them. Thermostat is a good example of analog function.

**Digital:** Digital computers operate on discrete data by performing arithmetical and logical operations on them. Such computers are used for accounting, forecasting, pay-rolling, sales analysis and other normal general business applications.

**Hybrid:** These are computers that have qualities and features of both analog and digital computers, and can perform operations of both types of computers. They receive data in analog form and convert them to digital qualities or operations and viz versa.

**2.2 FUTURE OF COMPUTER IN NIGERIAN BANKING SYSTEM**

The size and complexity of the present day business environment has called for a change in banking industry. The cove of bank has been bordered to include not only a function of not gathering information but also considered high level of responsibility of participating with management in making business decision. Nigerian banks are yet to fully exploit the potentials in computer banking. Apart from the products that have been mentions which are currently in the market, other products have been developed in advance economies, such as Electronic Fund Transfer of the point scale, Electronic Cards products etc. It is obvious that computer banking is the solution to the constant congestion motion often seen at bank counters. The number of cheque handled by banks will equally reduce substantially. Banks that introduced (ATM) should be cautious of whom to entrust with ATM cards. Since this is a high risk product that can cause unauthorized overdraft, banks are advised to exercise due diligence when processing debits emanating from ATM and EFT in order to avoid future legal tussle. A great potential exists for computer banking in Nigeria, a situation where more banks will acquire ATM and other products will enhance computer banks for customers to have access to the ATM; however, branches must be made to enjoy uninterrupted power supply. Also, customers must be tutored on the effective use of their cards and the need to ensure confidentiality of their Personal Identification Number (PIN). Finally, electronic/computer banking products requires the erection of sound internal control so as to avoid widespread of fraud.

**2.3 PROBLEMS ASSOCIATED WITH THE USE OF COMPUTER**

Inefficient Planning: Quality and efficient of banking services are now so dependent on computer system that any failure in planning may have significant consequences in the banking operations. Failure in implementing new systems and proving services quickly enough may pose serious problem with respect to its competitors. Fraud: Fraud involves all acts of dishonesty and deceitful manner to obtain or deprive a person or corporation of its property without the knowledge or consent of that person or the corporation. Successful fraud will not only result in a direct financial loss for the institution but will also reduce confidence in the institution and in the banking system in general when reported to the media. Errors: This usually occurs during entry of data in the system, which is often caused by human failure. It is rare for errors to be caused by failure of internal electronic or mechanical components. Total dependence on the technology of computer which pose previous problem because of power failure of the computer could constitute a disaster and loss of confidence in banking industry. Computerization in banking industry requires adequate security but while this is lacking, may pose a serious problem for the banks in a developing country. Irregular functioning of telecommunication facilities have not provide the level of support required to sustained computerization and computer networking.

**2.4 COMPUTER RELATED FRAUD IN THE BANKING INDUSTRY**

The increasing complexities and abrasiveness of the business environment that characterized the late 80’s coupled with the declining markets and the recognition of information as an important marketing asset have accelerated the urgency for information management. Consequently, the modern banking industry is becoming more and more dependent. An important aspect of the impact of computer revolution on the banking industries has experience tremendous upswing since the early 70’s. This view is supported by existing statistics on computer frauds in 1950’s, 63 cases in the 1960’s and 569 cases in the 1970-75. (Parker: 2010). In Nigeria cases of large scale computer frauds has been recorded in the bank of credit and commerce international (Donwa: 2011). Given the authentic nature of fraudulent practices at both the public and private sectors of this economy and the quantum leap in acquisition of computer system by banks, it has become necessary examine the issue of computer fraud in the banking industry and the possible remedies.

WHAT IS COMPUTER FRAUD

Hornby (2014), defined fraud as criminal deception. Longman (2010) defined fraud as a method of illegally getting or obtaining money from someone, often by using clever and complicated methods. Computer fraud is invariably committed for financial gain but unlike some forms of fraud, the perpetrators will make considerable efforts to prevent discovering of any loss by the victim. The rewards for such efforts may be complete freedom from prosecution at least a delay in discovery of the fraud and consequent chance of escape.

FORMS OF COMPUTER FRAUD

The essence of the complex internal procedures is to ensure that fraud or manipulation or error did not occur or is reduced to a manageable level. Computer fraud may take some or all the following forms;

1. Manipulation of Input: Here input date may be altered or corrupted with a view to altering computer records and may be with an intention to defraud the organization. Fraudulent data also known as “Data diddling” may be introduced into the computer system or processing. It involves changing data before or during their input to the computer. Manipulation of input data may be averted by ensuring that there are effective administrative and general controls. All input data should be appropriately authorized and segregation of duties strictly followed.

2. Manipulation of Computer time/Assess for instance by working late: Here computer time is manipulated with the intention to use the computer for personal advantage at the expense of the organization. Data in the system memory may be altered or certain unauthorized operations may be carried out. To check this, there should be an approved plan for computer operation and nobody should work outside this plan without prior approval.

3. Alteration of Master File Standing Data: Here data in master file is altered to help the unauthorized person to achieve his purpose. This is mainly done on the standing data (i.e. data that is not in constant use). To curb this type of fraud, there should be an effective back-up routine which ensures that a copy of master file is kept in “off computer locations”.

4. Program Patching: Here an attachment is made to the computer program so that it can jump function or perform unauthorized functions which the unauthorized person wants it to perform to his own advantage. To check this, program should be logged and the use of pass-word is restricted to the authorized operators only.

5. Interception of Transaction: This is normally seen where on-line system is in operation and can be intercepted between the terminal and the central processing unit. In one of the noticed computer fraud, a person intercepted computer operation in a bank to transfer millions of pounds to his account by connecting his computer line to that of the bank and operate on the CPU of the bank’s computer from his house. To curb this type of fraud, there should be a well monitored and dedicated line to and from the CPU especially where on-line system is in operation.

IMPACT OF COMPUTER IN NIGERIAN BANKING OPERATIONS

Operation is the first point of contact after customer or his transaction has arrived the bank. It can be seen that before the introduction of computer in the banking industry, a lot of problems were faced in processing transaction in various sections of the banks, but with computerization, all these problems have been reduced or eased off. The system has been embraced worldwide because it is easier and convenient for both the sender and the receiver. Introduction of computer networks similarly created new banking culture that granted customer flexibility in services delivery through wider choice of transaction outlet given bank network of branches. Therefore some of the impacts can be discussed below; Management Planning: Computer has for more than years now been used for financial planning in the commercial banks. Steps involved in planning are objective definition, target decision, forecasting, calculation, defining constraints and means. In general, it can be said that computer usage impulse planning by proving effective information for efficient management which leads to problem awareness, support problem analysis, select alternatives, influence the choice of the most appropriate option and permits feedbacks on the implementation. Introduction of computer has increased competition among banks and this has made the existing banks to engage on research to find out ways or strategies in marketing their products as to conform to the world of competitive environment.

Computerization or electronic banking has helped in introducing ***Electronic*** ***cards*** known as Pay Cards (Credit and Debit Cards). This was introduced to avoid the risk in carrying cash around. This electronic card is loaded with any amount in alternative to physical cash and any transaction can be made through this plastic card with ease.

***On-Line Real Time***: This is a new technology which most commercial banks have made available to all customers. This enable them access the balance of their account in various branches of the banks to effect deposits and withdrawal irrespective of where the account is domiciled in the bank. On-line Real Time have relief bank on delay in banking industry from the first commercial application of computer, which was batch-processing systems. Tradition batch system gathered all data of the day’s activities from later processing but on-line real time have made such transactions of the bank easy because of the use of computer.

***Internet Banking*:** Internet is a networking computer connected by a communication protocol that spreads across most countries of the world. Many banks use the internet to showcase their products and services etc. Computerization has also geared- up the responsibilities of the CBN in ensuring that processing of documents and other banking activities are being geared up for control purpose, for instance, this has led to the introduction by CBN on Electronic Clearing System, which when fully or finally implemented in the clearing house would help the banking industry in various activities like clearing inter-bank settlement, accuracy of transaction and less documentation and reduction of incidence of fraud etc.

Computerization has also introduced the use of ***Automated Teller Machine (ATM).*** This is a cash dispenser, which is designed to enable customers enjoy banking services without coming in contact with bank tellers. It is an electronic device employed to withdraw cash automatically without the need to complete withdrawal documents. Access to Automated Teller Machine (ATM) is through the use of ***Personal Identification Number (PIN)*** and a plastic card that contains magnetic strips with which the customer is identified. Banks usually handover the Personal Identification Number and is usually instructed not to disclose the number to any third party. (Kanu:2013, 119).

***Telephone-Banking:*** the introduction of computer has led to the need for phone banking which offers customers safe and easy access to their accounts 24 hours a day, seven days a week. This is method by which a customer can access his account or get information on his account through his phone. The customer will also receive confirmation messages when transactions have been executed. Also when customers access their accounts from the ATM’s or internet banking deliver channels, they will receive alert through their phones.

PROPOSED QUESTIONS

***Introduction:*** Please fill in the gap and tick (X) in the box where appropriate.

Name of Respondent…………………………………………………………. Sex: a. Male b. Female

Age: a.18-24 b. 25-34 c. 35 and above

1. To what extent is our society aware of electronic banking?
2. To a large extent b. To a little extent
3. How has electronic banking improved the quality of banking in our society?
4. Yes b. No
5. Do you think the benefit of computer justifies the cost?
6. Yes b. No
7. Do you think that the introduction of computer/electronic banking has rendered some people jobless?
8. Greatly
9. Partially
10. Not at all
11. What are the reactions of Nigerians to the computerization of banks?

Yes b. No

1. Has globalization any impact on the economy and future problem?
2. Yes b. No
3. Has the computerization of banking industry contributed to the increase in banking performances and efficiency in term of profit?
4. Payment system
5. Fund transfer locally
6. International customers
7. Record enquiry
8. All of the above
9. None of then above
10. Has the computerization of the Nigerian banking industry led to time saving in bank services and transactions?
11. Yes b. No
12. Has computerization of banking industries led to time saving in all area of banking transactions?

Yes b. No

1. Has computerization of banking industry contributed to the increase in banking performances and efficiency in terms of profit.
2. Yes b. No