INFLUENCE OF COMPUTER TECHNOLOGY ON ORGANISATION

A Case Study of some Commercial Banks in Nigeria

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EFFECTS OF COMPUTER TECHNOLOGY IN ORGANISATION

(A CASE STUDY OF SOME COMMERCIAL BANKS IN KADUNA)

BY

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PROJECT

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CERTIFICATION

This project titled "The influence of Computer Technology on Organisation" A case study of some Commercial Banks in Nigeria by Emma Emmanuel Obot meets the regulations governing the award of the degree of Master of Business Administration (MBA) of Ahmadu Bello University, Zaria and is approved for contribution to knowledge and literary presentation.

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DECLARATION

I hereby declare that this project has been composed by me and it is the record of my research work. It has not been accepted in any previous application for the award of a degree. The various sources of information not original to this work are clearly indicated in the references. All errors in the script and opinions expressed are entirely mine.

Emma Emmanuel Obot

DEDICATION

This project is dedicated to my mother Hannah James Umoren, the foundation stone of my life, my husband Professor Emmanuel Asuquo Obot and children for their love and understanding.

ACKNOWLEDGEMENT

I am grateful to the Almighty God who enabled me to write this thesis. Also in the course of undertaking this study, I have depended on the assistance of numerous individuals and some commercial banks in Kaduna metropolis. The successful completion of this study would not have been possible but for the contribution and assistance of these people.

While it is impossible to mention the names of all those who help me, there are some to whom I am so indebted that I must thank individually.

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I also wish to thank all the staff and customers of Union Bank, UBA, First Bank, Bank of the North, Eco Bank, Afribank, Savannah Bank, FSB etc. who responded to the questionnaires and also made themselves available for interview and discussion sessions.

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ABSTRACT

This study was carried out in an attempt to examine **the** Influence of Computer Technology on Organisation. The Researcher has attempted to review the opinion of some authors in the field of computer technology and financial management.

The data for the study were collected both from the staff of the banks, the customers and computer experts. This was done with **the** aid of questionnaires and personal interview. These formed the basis for primary data. The secondary data were also obtained through the review of the published texts, journals, magazines, annual reports etc.

The information/data collected were presented and analysed. It was found that the banks which have introduced computer technology in their operations were more successful in providing quality service.

Suggestions were however offered on how well the banks can employ computers in their operations to achieve greater efficiency.

CHAPTER ONE

1.1 INTRODUCTION

He woke up earlier than usual. Then he started his early morning rituals. He would always start with prayers. Afterwards he would brush his teeth. An activity which takes up to fifteen minutes sometimes. The use of the loo and the bathroom would naturally take the better part of a half-hour. My brother could be very meticulous when he is preparing to go to his office.

On days he wakes up earlier than usual everyone knows he has business to transact in the bank. By the time he sets off at around 7.30 in the morning, we may not get to see him till lunch time. He comes back full of complaints and growing irritation at the delay he had to endure, the mistakes the bank workers made the endless bettlenecks in especially, withdrawing your money from the bank or worst still making a transfer. Regardless of all these, as a businessman, he could not go it alone without the bank, for he needs their services as a matter of fact and very importantly.

That was yesterday's banks for yesterday's businessmen. A period in which some people had to go to the bank with their sleeping mats so that they could find something to do while the bank was trying to make up its mind whether to pay them their deposits or not. That was a time bank workers would leave home six o'clock in the morning and they would still be unable to close by 10 o'clock in the night because they were unable to balance accounts. That was the period in which close to twenty hands might be required to count five hundred thousand naira only. Those were the times customers only knew when they go to the bank but not when they come back.

Thank God for computers. The technology that puts the whole world on your laps. The need for management information increases with the complexity of the organisation, the complexity of the tasks carried out, and the rate of change in the environment of the organisation.

A consensus of opinion is that computer technology has done much more for banks than any bank or an aggregate of banks has done for the development and advancement of computer technology.

1.2 STATEMENT OF THE PROBLEM

A short while back, banking was a serious, if not, a repressible problem for every one alike; the customers, the employees, the management. The customers in the sense that plenty of valuable hours are spent waiting for the completion of simple transactions like withdrawing money from a personal account. The employees, in the sense that they resume by half past seven in the morning and twelve hours later, they are still unable to go home to their wives and children because their account would not balance. Management, in the sense that the effectiveness of an organisation is measured by customer satisfaction which is usually achievable when the firm can increase production at a reduced cost.

Then the computer technology came computer technology has been seen to be of tremendous advantage to the banking industry. However, most things that have advantages have disadvantages. Therefore, what are the evils of computer technology? What are its benefits in the banking industry? Do the benefits outweighed the problems to call for its continued use or should they be scrapped? How has this technology changed the life of the organisation. That is, the customers, the

management and employees alike?

1.3 OBJECTIVES OF THE STUDY

Efforts will be made to:

i. Study the effectiveness of banks in those days of manual accounting system.

ii Trace the development of computer technology in this new age.

iii From ii above, study the trends and developments of compute technology in the banking industry.

iv Study the impact of computer technology on the banking industry. This will necessitate a study of the benefits gained from using computerised accounting systems in the industry.

v Study the ways and manner in which computer can be used and has been used in banks.

vi Study the management and marketing implications of the use of computer.

vii Establish whether the utilisation of this technology has been adequate or inadequate in the firms studied.

viii Suggest to those concerned, means of advancing the use of computer technology in the industry.

ix Suggest possible ways of overcoming the discovered problems in the use of computer technology.

1.4 SIGNIFICANCE OF THE STUDY

The basic objective of this study as earlier stated is to x-ray the impact of computer technology on the organisations we shall be studying. Now, in every organisation, there are varying degrees of stakeholders to include, the shareholders of the company, the employees, the customers, etc. At the end of this study, the different stakeholders aforementioned will benefit

from the effort.

The customers for instance will now have some insight into the natural working of the organisation, its complexities and its lapses. This will enable the customers to appreciate the effort his company is making to provide a more efficient and effective service in spite of all odds.

Furthermore, some of the problems management faces daily from the introduction of computer technology will also be published. This will offer the management on opportunity to present its own side of the story to the customers, whose patience are always stretched daily.

Moreso, it will provide the management another avenue to present to the owners of the company its problems and prospects and hopes for a better tomorrow.

1.5 SCOPE OF THE STUDY

This study shall cover some banks especially those based in Kaduna. It is expected that the following banks will be covered:-

First Bank Plc.

Union Bank Plc.

Guaranty Trust Bank Plc.

Ecobank Plc.

Habib Bank Plc.

Chartered Bank Plc.

Afribank Plc.

United Bank for Africa (UBA)

Savannah Bank Plc.

Among these banks are the leading banks in the industry and also some which have not been able to organise an expensive network of this technology shall also be studied.

For more reliable information, efforts will be geared towards consultations with some computer firms in town.

In each of these banks efforts will be geared towards the discovery of the problems and prospects of computer technology at the individual level of the bank.

1.6 HYPOTHESIS

STATEMENT OF THE HYPOTHESIS

1. The universality of computer technology as a veritable tool of management information does hold true even for Nigerian banks.
2. Computer technology is the pivot around which effective and efficient banking service resolves.
3. Computer technology is dangerous to developing economies like Nigeria.
4. Poor performance of banks could be due to lack of computer technology.

1.7 RESEARCH METHODOLOGY

In conducting this research work on the influence of computer technology on organisations, both secondary and primary sources of data will be used.

The secondary data will form the basis of literature review and this will give a tentative background to the study. Various relevant books in the libraries such as text books, magazines, newspapers and journals especially the P.C digest which usually carries the most current information the personal computer will be consulted.

Several visits are being made by the researcher to the banks and the British council library for the collection of relevant information. All these data will help in no small measure to identify problems associated with computer technology in banks.

The primary data will be derived principally from structured questionnaire to customers on one side as well as the computer managers, specialists and other computer personnel in the banks.

Moreso, efforts will be made to have discussions with the aforementioned groups of respondents with a view to hearing firsthand, their perception of the impact of computer technology on their organisations.

Apart from having direct interview with the computer managers in the banks the researcher will conduct observations on the banking floors as well as in the computer rooms, where possible.

1.8 LIMITATION OF THE STUDY

It is obvious that the researcher was faced with some difficulty in undertaking research of this nature.

The first problem was gathering of data from various banks. Banks are almost always sceptical about giving out any information regarding their mode of operation.

Secondly there is limitation, though of a lesser degree in getting easy access to the relevant materials required for an indept study of the computer technology. Whereas literature on the computer technology is seemingly available everywhere you go, not many libraries and study centers seem to have an inexhaustive stock of the subject as might be expected of a subject like marketing or management.

Thirdly the research work is limited to only few banks out of the numerous banks in the industry. This further narrows the scope of the research work.

There was also financial and logistic problems associated with collection of information at the right time.

However, despite these limitations, the research work in terms of data collected was indept enough to enable an appraisal of the subject.

CHAPTER TWO

LITERATURE REVIEW

A. TECHNOLOGY AND THE ORGANISATION

2.1 INTRODUCTION TO COMPUTERS

Computer is a very fascinating piece of machinery. It is a high speed electronic device capable of performing arithmetical and logical operations as well as secretarial duties. Whereas it may be argued that there existed varying types of machineries that could perform arithmetical operations before the advent of computer, a computer stands taller than any one of them. It could store and execute instructions and thus perform a series of operations without human intervention.

By way of definition, a computer is a machinery which can automatically process data in accordance with a program of instructions stored within it, leading to the provision of results in a useful form.[1]

To achieve this technological wizardry, a computer has an inbuilt electronic component otherwise referred to as a circuit, that performs calculations, checks and stores data in its memory and provides a pathway for the movement of data throughout the entire computer system.

Added to this is an electromechanical component. As the name implies, this device is a mechanical component controlled electrically. A given example is the equipment responsible for the input and output of data which is also imbedded into the computer.

Data files, another important component of a computer is the store house for data items. A payroll file for example would contain the names, addresses, hourly wage rates and hour worked by each employee in the firm, each of which constitute

one data item for each employee.

Data items, are stored in data files, it refers to individual elements of data such as words. For example, names, addresses of each employees etc.

A program is a set of instructions and commands that tells the computer to do specific tasks. It could be any series of instructions in a specific order. Programs are written by professionals called programmers.

A computer has two basic components namely Hardware and Software.

Hardware are the physical components of a computer that can be touched. They include, Visual Display Unit (VDU), Central Processing Unit (CPU or Harddisk), keyboard, printer and mouse etc.

Software is a series of programmes which operate the computer. This can be classified into:

(a) System software, and

(b) Application software.

System software[2] is a collection of powerful programs that interfaces between the user and the computer machine. Simply put, it is a collection of programs that tailors the function of computer hardware e.g MS-DOs (Microsoft Disk Operating System), translators eg compiler, linker, editor etc.

Application software is a program written by a programmer to perform a specified job e.g Wordperfect, Microsoft Words, used for wordprocessing; Lotus 1-2-3 for complex calculations, budgeting, analysis and projections; etc.

All the components individually and collectively made the computer into the best piece of instrument ever designed by man. It is fast. Very fast at processing instructions, performing

calculations and making logical comparism. Besides it is very accurate. It is often said that a computer rarely makes a mistake, it is terribly reliable.

Conclusively, if speed, accuracy and reliability were the guiding principles of the makers of computers, one could throw caution to the wind and say that they have succeeded.

2.2 INTRODUCTION OF COMPUTER TO BANKS

Banks are traditionally conservative. They sit back and the funds they require come to them through customer deposits. They had no use for advertisement, neither do they engage in any serious forms of marketing with a view to attracting customers. The market was just there. All they had to do was to reach out and reap it. This was the story of those first and second generation banks that existed before Babangida came into power. When Babangida unfolded his blueprint for the banking industry, the whole scenario changed.

Babangida brought the Structural Adjustment Programme (SAP). This forced existing banks to adjust the structures and content of the banking business by licensing more banks into existence. With SAP, the Nigerian banking sector was largely deregulated. There was freedom of entry. Since 1986 when barrier was released, there has been a proliferation of banks and other financial institutions. In 1986, there were 29 commercial banks with 1,367 branches. As at 1991 however, there were about 65 commercial banks with about 2,070 branches and the number was still on the increase[3]

Deregulation ushered in a new wave of competition among banks. There was a noticeable flight to quality through the use of computers in discerning bank [4]. Old banks that already had computers were forced to tilt towards state-of-the-art machines.

This was because, a number of banks were positioning and repositioning themselves within the industry in response to competitive forces while others are being edged out. There was therefore the need for improved services and use of technology to ensure competitive advantage. To this end, banks that could afford to computerise their operations were seen as having competitive advantages over others.

Another significant event that led to an increased level of competition within the country was the flight of capital from the banking industry. The Newswatch Magazine [5], reported that between 1926 and 1994, total currency in circulation had increased seventeen times from ₦5.7 billion to ₦96.1 billion. During the same period, currency outside the banks increased from ₦5.2 billion to ₦90.5 billion. This estimates means that more than 90% of the total supply of money in circulation is outside the banking system. The significance of this is that banks had to compete seriously for the small cash in the industry while offering such improved services as will encourage customers to bring more money from under their beds into their banks. To achieve this, amongst others, banks had to computerise its operations with a view to providing quick and efficient services. It is common knowledge that people shy away from banks because getting their money out of banks require an expenditure of so much time and energy that one wonders if it is worth the effort at all.

In conclusion, wise banks now know that the exclusivity on services that they formerly enjoyed is no longer there [6]. Computers has made new services both possible and cost effective. These new services are in turn being offered by banks to newly perceived markets alongside a host of competitors who

years ago posed no threat to banks. Money transfer services, Bureau de change (when available), several savings and loans schemes that have opened shops around the major city centers are good examples.

What is more? The new breed of banks customers are infinitely more knowledgeable and mobile than their predecessors [7]. To this end, individuals and firms no longer stay with a banking outfit for personal or aesthetic reasons. They do so because the banks serves their purposes quickly and efficiently. Banks cannot serve these purposes without embracing technology even on a wider scale. The customers of today have no scruples about moving their accounts if another firm comes up with more attractive service to offer.

In the end coping with the new financial environment may prove too difficult for many banks and bankers. If they fail to make the necessary administrative and consequently technological adjustments in this era of stiff competition and high-cost deposits, they may be forced out of business. To prevent this, some banks would show their computer rooms on television as advertisement cliche for quality service.

Commercial banks went into the computer market in the 1970's in Nigeria. Union Bank Plc claimed to have bought their first computer in 1978.

2.3 TYPES OF COMPUTERS IN BANKS

Different types of computers are used in different banks, this is due to the banks capabilities to procure the required brand and upon the use to which they intend to put the machines.

a. MAINFRAME COMPUTERS

Some banks prefer a single mainframe computer, some others do not because branches have to carry their

data to the Area Office for the computer to work on. The computer batch-processes the data overnight.

The mainframe computer is the heart of large scale computer network. It can process large amount of data at very high speed hold millions of characters (words) in its primary storage area and support many input/output and auxiliary storage devices.[8]

The mainframe can support hundreds of computer terminals, enabling hundreds of persons to use the computer at the same time. Infact it is mostly used by large companies or banks. It is usually run by professional data processing personnel because of its complex value.

The mainframe sectors it the backborne of the computer industry. Entry into the market is restricted by the large investment required which runs into millions of naira. Moreso, the computer is very large in size and takes plenty of space. Its introduction may require a whole room alongside other costly planning and preparations.

Example of mainframes are IBM system by 370, Honeywell, Burroughs etc. Most banks have abandoned the mainframe because of its bogus size and the huge investment in labour and capital required.

b. MAXI COMPUTERS

These types of computers are very expensive. They are normally built under contract for a specific user. A small number of maxicomputers called super computers are built each year for users such as large government agencies, military defence system, national weather forecasting agencies and very large time-sharing network.

The most widely used super computer is known as

the CRAY-I. it hs a 64-bit word length, an effective machine and a memory cycle time of a dozen nanoseconds and a weight in excess of five tons.

Central data in another impressive major manufacturer of super computers. These massive computer systems have prices in the range of tens of millions of naira. They are extremely large and fast. Infact they are the state-of the art for the entire computer industry.

As hardware costs continue to decline, organisations that have not previously been able to afford Maxi-computers may be able to do so soonest. Even then however, the software costs associated with these systems would limit the number of users who could justify installing them.

c. **MINI COMPUTERS**

Minicomputers (minis) are third generation computers. Their sales accelerated during the 60's and the 70's until they become the fastest growing segment of the computer market. The reasons for their popularity are obvious; many end users were gradually becoming tired of the large size and larger costs of the maxi-computers and mainframes. They needed something smaller, less costly and equally effective. Since the minis were designed to handle a limited set of jobs and peripheral devices (attached equipments) they could be physically smaller and less costly than the large computers.

A mini can be plugged into the standard electrical outlet. It does not require any special ventilation or electrical wiring. It can be placed in most offices and work

areas.

Minis have come a long way since their initial development. They were initially developed for specific applications such as process control and engineering calculations. Current minis are however, small general purpose computers that are more flexible to meet the needs of a geographically dispersed organisation. This is why most banks prefer the minis to the other two types. Most banks have to be able to link their main office via the computer for access to more information and for the purposes of coordination. This is the single most significant advantage of the mini. To wit, it can be enlarged to meet the needs of a growing organisation since it can be designed into a unit of hardware and software for use with other units. As additional units are installed, they can be connected to existing ones to share a common data.

Over the years, large centralised computers have tendered to be overloaded and therefore unable to respond quickly to user requirements. It became imperative therefore for users to supplement their central computers with a number of minis located where processing is required.

Another advantage of the mini is that it can handle local enquiries and produce reports for the particular branch it is located.

Thirdly, a mini can filter and condense data before transmitting it to a central or host computer.

Lastly a mini can verify and edit data, relieving the host computer the task of data entry procedures.

The leading manufacturer of mini-computers include Digital Equipment Corporation (DEC), IBM, Honeywell, Data General, Prime Computers, Burroughs, Basic Four. MCR (Material Cash Register) etc.

d. **MICRO COMPUTERS**

These are general purpose computers that range in size from a lap-top or a handy pocket computer to a small-typewriter-like unit.

At the head of the micro, is a micro processor that performs arithmetic/logic operations, primary storage unit and other functions. It is the CPU of the micro computer.

Micro computer represents a technological breakthrough. It brought computer down to both people and products. The major dimensions of this revolution are:

i. **Micro Computer Technology**

This is a computer of small size and cost yet has great speed, capacity and reliability. They are now being embedded into large computers to increase their speed and power.

ii. **Microcomputer distributed processing**

Microprocessors and computers now permits many data input/output, storage and communication devices to become powerful "intelligent" processors or terminals with their own computer capability. Though this trend was started by the minis, the micros has truly made possible the dispersion of computers to all users in an organisation, distributed processing can now be done in branch offices, retail stores, factories, office buildings, remote locations and other work sites.

MAIN LIBRARY

an example of smart industrial product include industrial robots and talking calculations.

PCs, though small and inexpensive, are generally portable. A PC can be powered by battery. Some PCs are even smaller than typewriters. Their use was formerly restricted to schools and businesses. Now they are household items, especially as a home management tool as we have seen. The interesting thing about the PCs is that its performance increases as its cost reduces.

The design of the PCs now, permits a high level of interaction between the user and the machine.

A PC can be used as a word processor and also for graphic programs, spreadsheets, database management programs. The skilled user, can employ its tools to draw or sketch graphic programs; to do simple and complex numerical calculations.

Recently, it has become possible to connect PCs to larger computers or to other PCs. Thus a PC may be employed as a terminal within a computer network. These connections are commonly made over phone lines. They generally complement larger computers like mainframe or maxicomputers.

2.4 ROLES OF COMPUTERS IN BANKS

A computer being a very efficient, reliable and effective means of obtaining the banks objectives could be used in the following ways.

i. Record keeping:- The computer is used to record all transactions involving the customers. Details of these transactions are often fed into the computer and consequently duly recorded. This includes records of all

deposits and or withdrawals made and interest payable or receivable.

ii. Processing: The computer processes all customers account ensuring that each account reflects the correct data and amount of each transactions.

iii. Arithmetic calculation: As a corollary to point 2 above, the computer is used for the purpose of calculating the correct balance on each of the accounts for each of the months based on records transaction.

It is capable of adding, subtracting, dividing, multiplying and infact accomplishing all arithmetical calculations that is required.

iv. Output data: Through visual display on CRT (Cathe Ray Thode) or by simply printing out the desired portion through the printer, the computer is able to provide the opportunity for the parties concerned to keep copies of the recorded transactions. The final print out will usually include a list of the dates and amount of each transactions and the current monthly balance for each account.

v. Storage of information: Besides record keeping, a bank usually has a main computer into which details of all customers accounts and other bank activities are stored. All other computers are connected to the main computer. To this end, a deposit recorded by a cashier on the counter is immediately processed and stored by the main computer.

vi. Audit Trails:[9] The computer is used by some banks to assist the auditor in detecting fraudulent activities when planned or executed. In the manual system, when a transaction is altered, the investigating authorities usually

tries to examine the handwriting in fishing out the culprint. In the case of computers unfortunately, it is not possible to examine handwriting of users. What banks do therefore, is to purchase packages which keep a logbook of users. To this end the package will identify the user and the list all the activities carried out by the user while they were logged on, and on which account. On a daily or weekly basis, the logbook is printed out and can therefore be employed to sort out all queries.

vii. Decision making: Bank managers can access amount of cash at hand, current assets and current liabilities and other information required to plan and make decisions about whether to open or close a branch.

viii. Aged Debtor Analysis: This information is very difficult to obtain through the manual system. However it is now possible for banks to program analysis of each debtor's account and produce a printout which shows not only the current balance outstanding but also how old that balance is. It will usually breakdown the balance and the amount owing from month to month. This information is vital for effective credit control and to give advance notice of possible bad debts.

ix. Income and Expenditure Ledger: In this ledger the computer records the income received from services rendered, interest payments receivable and payable etc. It records expenses such as salaries of staff, housing allowance, repairs or renovations done on offices etc.

x. Automatic Cheque Sorter:[10] The MICR is an acronym for magnetic ink recognition cheques introduced by the Central Bank of Nigeria to facilitate sorting of cheques by

a. The memory: Used for storing all relevant data and programs.

b. Speed and reliability

c. The capability of the computer to be programed and to perform accordingly.

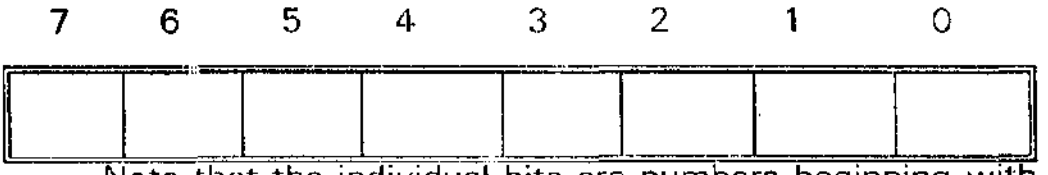
4. THE COMPUTER MEMORY

Every piece of information stored within the computer memory is encoded as some unique combination of zeros. (Os) and ones (1s). These zeros and ones are called bits (ie binary digits). Each bit is represented by an electronic device that is in some sense either off zero or on one.

The length (number of bits) in each register of the main memory is the same for a particular type of computer. It is called the word-length. Since binary codes are being transferred from the main memory, the same word length is used throughout. The word length characterises the computer e.g 16 bit or 32 bit etc.

Small computes have memory organised into 8-bit multiples called bytes for example.

Bit No.



Note that the individual bits are numbers beginning with zero (for the right most bit) and extending to seven (the leftmost bit). Normally, a single character e.g a letter, a single digit or a punctuation mark, will occupy one byte of memory. An instruction may occupy 1, 2 or 3 bytes. A single numerical quantity may occupy 1 to 8 bytes depending on its precision (ie, the number of significant figures) and its type integer, floating

15 minutes to read.

B. SPEED AND RELIABILITY

By reason of its extremely high speed, a computer can carry out calculations within minutes that might require days, months or even years of human effort, for example, the end of term results for all students in a large secondary school can be processed in just a few minutes on a large computer.

The time required to carry out a simple computational task such as adding two numbers is usually expressed in terms of microseconds or nanoseconds. That is, a computer can add two numbers in 10 nanoseconds (typical of a modern medium speed calculator).

This very high speed is accompanied by an equally high level of reliability. Thus a computer never makes mistakes of its own accord. Most mistakes are the result of programming errors or data entry errors rather than errors caused by the computer itself.

C. CAPABILITIES OF COMPUTER SYSTEMS

i. Batch Transaction Processing:

In batch processing, data for a particular application or job are accumulated into batches and processed periodically say, daily or weekly. This process accords the user a schedule which makes for an efficient use of the computer rather than processing data and jobs in an unorganized manner.

A typical example in the banking industry is the accumulation of all daily transactions into batches per day, which is later processed at the end of the day. Thus customer bank balances are updated on a daily basis.

ii. **Single Transaction Processing:**

Here transactions are entered single into the computer. This system is often used where accelerating the speed of processing provides significant advantages such as early delivery of merchandise sold.

iii. **On-Line, Real-Time Transaction Processing:**

This occurs when transaction is processed, singly and in the sequence of its occurrence. This is what is meant by on-line processing. Real time processing means that data is processed quickly to reflect the activity that generates the transaction.

The airlines use this system to record the number of reservations made into the computers, the seat number, the class and access the number of seats available etc..

iv. **Data Communication and Message Switching**

This explains the linkage of two or more computers to a telephone lines or other transmission methods. Elaborate computer-controlled communication systems route the data to wherever it is addressed.

Message switching is a technique in which each message is headed by a destination address and is passed from source to destination along a network.

v. **Remote Data Entry and File Update:**

Data can be collected and connected into an input medium at a remote location. Then the output devices at these locations are used to transmit the data to another location for processing.

This can be done using the batch method or the On-line single transmission entry.

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vi. **Record Search and Analysis**

Often a computerised system makes particular types of record continuously available for review. Inventory and account receivables are good examples. In the banks a customer's financial statement can be displayed within moments of a request.

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vii. **Office Automation**

This involves using computer power for automatic clerical activities in the office for example, typewriter technology with memory that can perform the triple function of traditional typing, data entry into the computer through its keyboard and reasonable speed.

A word processing office automation capability can be effective in any office typing environment and is especially useful where information in narrative form must be produced frequently with only minor change each time.

2.6 ADVANTAGES OF COMPUTER TECHNOLOGY IN BANKS

i. **Speed:** Hundreds of thousands of accounts can be searched through in seconds to access the desired account. This not only leads to substantial time saving over conventional manual methods, it also provides a qualitatively different result. The inherent advantage is that customers can be served faster than was the case.

ii. **Administrative Advantages:** Increase in size and complexity of firms coupled with increase in customer expectations has necessitated extra administration and coordination. On the one hand, within the bank as an entity, computers save a great deal of time that would otherwise have been lost in communication between groups and individuals. This helps to reduce the overhead

pipe to ensure that data transportation is safe and secure and therefore can neither be tapped into nor redirected[12]. As long as these security systems are continuously enhanced and upgraded banks have no fear of computer fraud.

For example, there exist 2096 bit length encryption and this will take close to 15 million man-hours to decipher or break-in. By the time a fraudster invests that much man-hours some more sophisticated security systems would again have been developed. For banks engaged in internet banking, account balances are sent through these secured lines.

vii. **Internet Banking:** Computers have made possible, internet banking single-handedly [13]. Internet banking is a software that allows customers of a bank to log on to a bank's system which is either worked through an Internet Service Provider (ISP) or directly to the bank. To wit, customers can stay at home and employ computers to check their account balances, query the account, initiate a transaction like transferring money from a current account to a savings account.

Computers can also be employed to pay bills of utility companies to a bank without the customer being physically present.

viii. **The Word Processor Advantage:** Bank typist as elsewhere can correct mistakes made in the process of data input before outputing the data. Documentations like letters, circulars etc can be stored in the systems memory and reused. Changes and revisions are also easily made. It is also possible to type standard paragraphs and pages

while allowing for variable information.

Other advantages are:

- There is an obvious reduction in man hours and labour hours as bank workers no longer have to stay long hours to balance accounts the banks too, can now save the money that was being paid out as overtime.
- The working environment at the bank is also improved. Papers no longer have to be strewn around the floor, files piled up all around the place. Some peoples files hidden to embarrass the owner etc. There is now an economy of storage areas that is more conducive for staff and customers.
- Management can take decisions quickly and accurately too for the enhancement of the overall organisational development. This is because most of the information required is easily obtainable.

2.7 PROBLEMS ASSOCIATED WITH COMPUTER IN THE BANKING INDUSTRY

Computers are not without drawbacks. They are less suited for certain kinds of problems and they inevitably introduce difficulties of their own.

i. **Cost:** The use of computers often involves a large overhead in terms of time and money [14]. This overhead comes from the administration required to organise the data, access the program, correct errors found in data etc. There is a multitude of small tasks to be performed when processing any amount of data.

More importantly, the cost of acquisition and installation of computers can be very prohibitive where the

computer is to be used in an interactive manner, the cost of the mainframe and of the accessories and PCs that will be linked to the mainframe to enable an interactive use is considerable.

ii. **Stress:** The use of computers in an interactive manner drives the user. This is because the computer responds faster and almost always waiting for a response. This forces the user to a higher pace than normal. The difficulty of sustaining this pace can lead to stress.

iii. **Loss of Information:** Computers are often susceptible to systems breakdown e.g virus infection. When this occurs a whole lot of information stored in the systems memory goes down with it. This is more so in Nigeria with her incessant irregular power supply which can sometimes cause a systems breakdown.

iv. **After Sales Service:** Getting competent personnel to install or repair the computer is not easy. Only a small proportion of the workforce are computer experts. Most of the people are computer users. Usually the suppliers maintain an after-sales service department but often times, these suppliers have offices in the country's headquarters and skeletal services in one or two other places. To this end, the banks have to incur more cost in terms of time and money to bring them over to the trouble spot.

v. **Less Manpower Needs:** Introduction of computer means a shift from labour intensive to capital intensive method of production. This creates an under-employment problem in the banks. Banks are sometimes forced to use personnel on jobs below their mental capacity.

B. THE BANKING SYSTEM

2.8 HISTORY OF BANKS

Long before Jesus Christ was born various people undertook transactions that are today recognised as banking functions. In Lambardy Italy, for example history had it that banking transactions took place on a bench in the market place at around 2500BC. Hence the word "Bank" as we now know it was derived from the Italian word "Banco" which translates to the "Bench" early operators used in the market places.

When an actor fails in the market place, people say his bench is broken. Hence the word "bankruptcy" as we now know it was derived from the Italian word "banco-rupto" which translates into "broken bench" in English.

Modern Banking was recorded to have started sometimes in the 16th century when the Italian Goldsmith in London expanded their trade to include the acceptance of customers' valuables for safe keeping. This function which incidentally is still an integral part of modern day banking, necessitated the issue of receipts to the depositors. It turned out that people who held receipt for gold (or other valuables deposited with the goldsmith started trading with the receipts. The receipts were seen as a guarantee, an assurance that the person presenting the receipt has gold in the goldsmith's vault and, more importantly, that the gold equivalent in value to the amount written on the receipt would be presented upon demand, in exchange for the receipt. The receipt issued by the goldsmith became a means of exchange generally acceptable. Bank notes and coins were later to be developed to take its place [15].

Soon afterwards, the goldsmith discovered that not all the gold deposited were often collected once. This discovery

enabled them to lend to people, who were prepared to pay pre-arranged interest, a proportion of the gold deposit. The goldsmiths had a rewarding practice there.

With every profitable endeavour comes different types of actors and consequently bad management. This led to systems collapse. Bankruptcy resulted into long suffering of depositors who lost their deposits to overzealous goldsmith and consequently a distrust in the goldsmith.

In 1684 the British monarchy determined to reduce the sufferings of the depositors by encouraging banking habits established the bank of England in 1684 and gave it the sole rights to issue bank notes.

2.8 EVOLUTION OF BANKS IN NIGERIA

Before colonization, various systems of banking that existed in the country were reflection of the religious, cultural and sociological background of the nations and peoples welded into what is today known as Nigeria.

Modern Banking in Nigeria however, did not start until multinational corporations felt the need for it. The increasing activities of these corporations added to the increasing financial transactions of the colonial government, the decline of the barter system of exchange and the increasing acceptance of the British silver currency, were those factor that pressurized the resort to modern day banking for the proper execution and transmission of funds in the economy.

It was for this and other purposes that the Elder Dempter and Company invited the African Banking corporation based in South Africa [16]. The Bank opened a branch in Lagos in 1892. At inception, the bank served only foreign companies. Its existence as a going concern was however made precarious by the trade

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recession, which hit Lagos in that year. The Elder Dempster and Company bought over the ownership rights. Thereafter, this bank enjoyed pure monopoly of Banking in Nigeria until 1894.

In 1894, the Bank of British West Africa opened an office in Lagos. In 1899, the Paiges Trading Firms in Eastern Nigeria under the leadership of the Royal Niger Company established the Bank of Nigeria. By 1912, the bank of British West Africa was the only bank left to reckon with in Nigeria. However, in 1916, the colonial Bank opened shop in Lagos, in 1925, the colonial Bank was taken over by the Barclays Bank, which was opened in 1917.

By 1975, five foreign banks had joined the scene. The United Bank for Africa (formerly British and French Bank) established in 1949, International Bank for West Africa, Bank of India, Arab Bank, Savannah Bank (formerly Bank of Africa) and Chase Mahanttan Bank.

2.9 FUNCTIONS OF COMMERCIAL BANKS.

i. **Credit Facilities:** This is the primary function of commercial banks to give credit to worthy borrower. This helps to increase production, expand capital investments and increase standard of living [17].

ii. **Mobilisation of Savings:** This includes making funds available for investments.

iii. **Money Creation:** This function helps to expand the productive facilities available to business firms. Without this, companies activities are generally reduced. Business would have to wait to generate sufficient profits for expansion to take place.

iv. **International Trade Services:** This includes bills for collection, bills for negotiation and documentary credits.

v. **Safe-Keeping of Valuables:** Banks preserve valuables in their strongroom such as government stocks, shares certificates, life assurance policies, certificate of occupancy, deeds of conveyance etc. These are deposited in sealed boxes or envelopes without content known or unknown to the bank officials.

A banker enters into a contract of bailment when safe custody of items are received from a customer. If a bank charges for the services, he is paid bailee. If not he is a gratuitions bailee. In law, the paid bank is expected to show more care.

vi. **Brokage Services:** Buying and selling of securities for customers. This is not the same as stockbroking services. Usually the customer's instructions are passed on to stockbroking firms or merchant banks for execution.

vii. **Night Safers:** Few banks in Nigeria operates this service. This enables customers to make deposits after normal banking hours. The customer is given a night safe wallet which is often locked. To pay in, the customer fills the pay in slip and puts both the slip and the cash in the wallet and pushes the wallet in through the exterior wall of the bank. The wallets are cleared in the morning and the customer account credited. This service is suitable for shopkeepers wishing to bank the days takings.

viii. **Status Enquiries:** This is for reference purposes. A bank may be requested to furnish the financial standing of it client. This is often, a reciprocal practise among banks. Usually, the reply appears vague to the layman but of great important to the receiver.

ix. **Business Advisory Service:** This is performed by only few

banks in Nigeria. The practice is to assist small business customer to develop their business in such a way that they can attract bank finance.

x. **Services to Travellers:** A travel currency giving the holder the security of a letter of credit and convenience of a local currency. It is often issued in several denominations of the currency and cashable at the correspondents of the issuing bank. The unused ones are convertable to cash upon the return of the traveller. Foreign currency are obtainable in banks. Transfer of funds and recently money transmission services are also provided.

2.11 OBLIGATION OF COMMERCIAL BANKS

When people worry that banks are not computerising faster, it is not for want of responsibilities. The worries follow from the obligation banks have to practically every sector of the economy. The free enterprise system gives any individual or a group of individuals the unquestioned right to open the business of his choice. This observation is however not valid when the formation of a bank is the issue.

The banking industry is very important as businesses, governments and industries rely on it for survival. They depends on the banks for their deposits payments and credit functions. Besides, the largest portion of money supplied and demanded ought to be held in banks. An economy where people hold cash out of the banking system for whatever reason is ailing.

A bank obligation to its depositors are very simple. Depositors surrender money on trust, such monies ought to be held in trust by the banks. This trust represents the sacred contract between the banks and the depositors. Consequently when a bank cannot live up to the letter and spirit of this

contract, such a bank becomes doubly bankrupt; financially and morally! [18]

A bank also has an obligation to its workers. To this end a bank must continue to be a going concern. This is the only way it can guarantee the jobs of its staff. In 1997, 163 out of 251 staff of Highlands bank were sacked at a go. The union went berserk. They demanded among other things ₦10 million to pay off the retrenched staff [19].

A bank's responsibility to its share holders is to pay reasonable dividends after ensuring protection of shareholders fund at all times. Certain performance levels in terms of aggressiveness and full range of financing services are expected. Effective management mandates banks to assume a position far different from that which so many of them adopted in the past. In the past they had simply permitted the future to happen and made no attempt to anticipate it or react to the events that might be foreseen.

In view of these, the interest of the bank and the state has to coincide. The bank requires an environment conducive to capital accumulation which only the state can provide. The state on the other hand is required to protect the expansion of the organic composition of capital congenial at the interest that bind it together. A cooperation between the two is therefore pertinent. To this end, the state sets up a regulatory framework as a monitor of the actions and inaction of the banks and also to ensure that banks operate in a conducive environment and keeps bad business out of the industry.

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CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

In this chapter, efforts will be made to x-ray the nature of the data collection procedures that will be best to achieve the desired objective of analysing the influence of computer technology on organisations. This will be done, bearing in mind that the impact of computer technology are two-pronged. It could affect an organisation positively or negatively. It could further the cause of an organisation and contribute to its improved growth and development or could be otherwise.

Many questions have been asked before now in the course of this project work. Objectives have been defined. Hypothesis have been formulated. The concern now is to proceed to the real world to observe and to measure what has been assumed. Information will be gathered about the way and manner in which the organisation employ computer technology, the advantages these organisation derive from the use of computers, the problems associated with the use of computers in the organisations concerned and future prospects.

Using the acquired data from the field, the hypothesis formulated in the course of this project will be tested. The result of these tests will form the basis for the conclusion that will be reached. These efforts become significant in view of the fact that the strength of any datum is directly influenced by the preexperimental planning that determined how it was to be gathered. [1]

It is common knowledge that a researcher is obligated to select the most appropriate instrument or instruments in testing hypothesis that has been put forward.[2] For the purpose of this

research, a number of instruments have been jointly used with a view to achieving the desired purpose.

We shall now take a look-see into some of the methods of data collection techniques employed.

3.2 DATA COLLECTION TECHNIQUES

3.2.1 INTERVIEWS

Interviews as data collection techniques are meetings in which the investigation directs question to the subject and records the obtained responses either manually with the use of paper and ink or electronically, through the use of tape recorder. Usually therefore, it entails a discussion of a sort between two parties sitting across table (literarily speaking) and exchanging views. The two parties have to interact face to face.

The interview for the purpose of this research will attempt to cover both bank employees and customers. However by reason of the uniqueness of these two aforementioned group of respondents both the structured and unstructured forms of interviews will be employed. This is so, bearing in mind the arguments scholars have advanced for and against these two forms of interviews.

It is estimated that the unstructured type of interviews will be used mostly for the customers. The customers who come into the banks are largely impatient and usually have an ear open for the call from the counter. Therefore an informal discussion - like interview will not be as vexing as a formal sort.

The unstructured interview for the evidence of doubt, is the interview mode which does not necessarily require pre-prepared questions and formal environment. The interviewer, largely has the freedom of framing and asking questions. Regardless of these informal nature, the researcher is expected

to, at the bearest minimum, clarify his goal, if only to himself.

The interview with bank employees will have to be structured. So far, experience has shown that whereas bank employees tend to put on an air of being permanently busy to impress their employers (who else?) they may be available for interviews after the day's work or even on Saturdays in the office. Morover, it is important to structure the questions because most of them want to obtain permission from their employers or managers before talking. Therefore they insist on pre-prepared questions, and may not answer any questions not on the list.

Structured interviews helps to standardise the interview process especially with the presence of a questionnaire schedule. It is especially good in testing hypothesis faster than the unstructured interview. Structured interviews is largely preferred because it is more reliable and has a higher efficiency in time savings.

Despite these classifications however, it is pertinent to note that a certain degree of flexibility will be practised. For instance a bank customer being interviewed at home and a bank employee during a break period may be treated to a structured and unstructured interview respectively, in spite of our earlier protestations.

3.2.2 QUESTIONNAIRES

Almost every research of this nature employs the questionnaire method. It goes without saying therefore that this method is the most used of the devices of data collection techniques. By way of definition, the questionnaire is a device for obtaining answers to research relevant questions from a sample of respondents by using a form which the respondents

fills himself. These questions are presented with exactly the same wording and in the same order, to all respondents. The aim of this is to ensure that all respondents reply to the same questions and thus help to guage reactions to the question by different respondents.

For the purpose of this research, two basic types of questionnaires mode will be designed. One set will be for the customers of the banks being x-rayed. The second set will be for the banks' employees. The set for the bank employees will be a whole lot more comprehensive than the set designed for the customers. The reason for this is simple. Whereas the bank employees are professionals in computer technology or at least users of the computer and are therefore more knowledgeable in the area of interest than the average bank customer whose familiarity with the computer may not extend beyond observing that the cashier in his bank punches the computer before paying him. The questions designed for the bank customers categories of respondents will therefore hinge on their observations and impressions of the performance level of their banks and customer satisfaction.

Both the open-ended and the close-ended options in the questionnaire method will be utilised. This will be done bearing in mind the benefits and inadequacies of each of the two options. The open-ended questions are designed to permit a free response from the respondents rather than limiting the respondents to stated alternatives. For example a question like:

- How long have you been with your bank?
- Which area will you suggest that computer technology should be applied in the bank? etc.

These are some of the open-ended questions being

designed to probe into the inner recesses of the respondents.

Mostly closed-ended questions will be used. Close-ended questions is one in which the response of the subject are limited to stated alternatives some of the expected answers will simply be yes or no. In other cases the respondents will be expected to choose an answer from among a long list of alternatives already provided. The reason for the predominance of these closed-ended questions, as already noted is to provide for uniformity of answers and to reduce the workload of this researcher during the period of analysing the responses of the respondents.

3.2.3 OBSERVATIONS

Most of the respondent banks are most likely to outdo themselves, heaping praises where they are not doing well and covering up faults. The customers themselves may not possess the hundred percent objectivity required for the exercise, perhaps for one reason or the other. To arrest these lapses the observational method will be employed to augment the other modes of data collection.

The observation method to Blalock Jr[4] involves a rather wide range of activities varying from actually becoming a bonafide member of the group being studied to observing and interviewing its members rather informally as an outsider. These two types in other literature has been referred to as Direct and Indirect observation methods.

However for obvious reasons this researcher has opted for the use of the direct non-participant observation method. This system will largely entail keeping eyes and ears open at every banking hall with a view to accessing objectively, the reliability of the claims made by both the customers and employees respondents to the questionnaires and interviews.

3.2.4 DOCUMENTARY SOURCES

It is widely acknowledged that documents, in all its forms, are vital source of data for a researcher on the prowl for old and new information that may assist him in his research. It is therefore not significant whether the document obtained and/or obtainable is published or unpublished. This documentary source has been a reliable source since the beginning of this research even up to this point.

It was with documentary sources that the idea for this research topic was, in fact, born. The development of the hypotheses and the objectives of study et al have all originated from a study of the work done previously by scholars and the desire to not only contribute but also to improve upon their efforts.

The writing of the literature review, as the name implies, had been dependent to a large extent on the study of documentary sources. The literature review had been written with a view to sharpening our understanding of the research subjects, namely computer and banks.

It is relevant to state here that whereas it was easy to lay hands on the Annual Reports of some banks, it was impossible to see those of others. These reports would have given the researcher an insight into the value of the fixed assets of the company vis-a-vis the profit generated with the fixed assets. Also a peep into the chairman's statement is often good in getting a feel of the direction to which the organisation is headed perhaps these documents will later be accessible as this research work progresses.

So far, published texts, unpublished research work, newspapers and magazines articles, computer digests, Central

Bank publications are being consulted.

Beyond this point however, the relevance and/or usefulness of this source of data collection is doubted.

In conclusion, the basic premise upon which research rests is that every scholarly investigation into a specific subject matter will be thorough enough to reveal body of knowledge which will withstand the test of time [5]

3.3 SAMPLE SIZE

The sample size is drawn from the sample population. the need to study the sample is informed by the size of the entire population [6] which is so large that this research cannot cover all of them. Besides the time available for a research work of this sort does not permit for a study of every single element in the population, if an indept analysis is to be made lastly, there is the constraint of resources (both human and material) being insufficient for a detailed study of the whole population. The sample population for the avoidance of doubt is the employees and customers of most banks in Kaduna metropolis and its environs.

However, this research work will cover the staff and customers of the following banks;

i. International Trust Bank
ii. Habib Nigeria Bank
iii. Bank of the North Ltd.
iv. Afribank Plc.
v. Savannah Bank Plc.
vi. Inland Bank Plc.
vii. Citizens Bank Plc.
viii. Standard Trust Bank Plc.
ix. Union Bank

x. United Bank for Africa

xi. First Bank Plc.

xii. Eco Bank

3.4 TECHNIQUE OF DATA ANALYSIS

Data analysis [7] is the procedure of converting raw data-nominal, ordinal, interval or ratio numbers, that convey information about some observable aspect of reality - into some form that enables the investigator to:

a. Summarise the relevant data

b. Test hypothesis

The techniques used for the analysis of the data collected here is the simple percentage for the purpose of convenience. In this method, the number of respondents to a question is analysed by the number of respondents who express their opinion about the various questions fielded.

Where a higher than average percentage supports the hypothesis, it is the opinion of the researcher that such an hypothesis may be believed to be true. However when a lesser than average percentage does not support the hypothesis, the hypothesis may be deemed untrue.

Data analysis and hypothesis testing will be done in the later part of this research work.

MISCELLANEOUS

Osuala [8] a Professor at the University of Nigeria, Nsukka whose suggestions will as much as possible be adhered to in the course of fine turning this research work before submission, deserved some mention.

The verb tense will henceforth be in past tense. This means that the thesis will be recounting what has already been accomplished. When present or future tense is used, it will be

because the event will still be true in the future.

The time-tested mode of referencing for the single author, double authors, other editions other than the first, magazines etc will also be strictly adhered to.

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CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 INTRODUCTION

As earlier stated, both primary and secondary data will be required for the purpose of this study. Questionnaires duly completed and returned by respondents will be examined and analysed. Information gathered from oral interview will be presented and analysed. All in all, this chapter will be used to present, interpret and analyse, the data collected.

In other words, the results reported in this study are based on questionnaires administed to respondents (both customers and interviews) as well as data gathered through personal interviews conducted and also through personal observation. This is done by arranging the responses in such a way that will help to make logical deduction.

This will involve the use of descriptive and/or inferential statistics, as may be appropriate. Simple tabular comparisons, illustrative figures, tables and simple percentages shall be largely relied on where necessary.

4.2 DATA ANALYSIS

Respondents by banks.

All in all, a total of nine banks were studied. Originally, ten banks were listed as possible targets of study. However due to inadequate cooperation, some of the listed banks were canceled and replaced by others. In the end, the following result was obtained.

Table 4.1 **RESPONDENTS BY BANKS**

Banks	No. of Respondent	Percentage
Bank of the North	6	12%
Citizen Bank	3	6
Ecobank	4	8
Inland Bank	6	12
Union Bank	7	14
First Bank	10	20
Savannah Bank	6	12
United Bank for Africa	5	10
Afribank	3	6
	50	100%

Source: Questionnaire

United Bank for Africa (UBA), Afribank Plc, First Bank Plc are included here because they represent colonial institutions, or rather First Generation banks where there are visible responses to computerization. What I am saying is that, these banks without exemption have similar customer service system that does not encourage delay. This conclusion is only based on observation.

Union Bank Plc and Bank of the North are also old banks. Infact, Bank of the North lays claims to being the first indigenous bank around. However, old as they are, these banks do not display visible responses to the needs of the computer age.

Savannah Bank was listed because it just came back from the dead and it was felt one could find out how well their customers are enjoying their services without visible presence of

computers to assist in most of its activities.

Citizens and Ecobank are on the list because they are newer and they seem to take the computerization and/or satisfaction of their customer through fast and efficient services, seriously.

YEARS ASSOCIATED WITH THE BANK

Respondents were asked how long they have been relating with their banks. It was felt that those who have been with a bank long enough, will be able to tell the difference between what used to obtain and what is,

Table 4.2 **RESPONDENTS BY YEARS ASSOCIATED WITH THE BANK**

Years	No. of Respondents	Percentage
+ 10 years	17	34%
5-10 years	13	26%
1-4 years	15	30%
Less than 1 year	5	10
	50	100

Source: Questionnaire

From above, it is obvious that a larger proportion of the population has been with the bank for a period in excess of five years. This makes for greater reliability of the information.

Reasons for staying with the Bank.

Table 4.3 RESPONDENTS BY REASONS FOR STAYING WITH THE BANK

	No. of Respondents	Percentage
Efficient computer service	11	35.5%
Presence of Friends or relatives	4	12.9%
Others (such as nearness, employers choice, other banking facilities)	16	51.6%
	31	100%

Source: Questionnaire

Here it seems that most people stay with a bank for extraneous reasons other than efficient computer services. However, I extended this analysis forward a bit by looking at the category of banks from where those responses came from. I was able to discover that those who filled in other reason are mostly from the first generation banks. Some of the reasons they give include wide network of branches, historical background of stability (this being significant in the face of the recent mass failure in the banking sector). Infact some said that they stay with Union Bank so that they can benefit from the Agricultural Loan Scheme.

On the other hand almost all those who filled efficient customer services as their reason for staying with a bank are from the new banks. A handful of people from First Bank also gave this reason.

The discovery here is simple, customers of banks love efficient customer services as made possible by computers. Nonetheless, they still prefer to stick with their old banks even

if it means taking a little bit more time than necessary to collect their deposit.

To drive home this point, respondents were asked whether they are thinking of changing banks. Below is an analysis of their responses.

Are you thinking of changing banks?

Table 4.4

Responses	Old Banks		New Banks	
	No.	%	No.	%
Yes	7	36.5	-	-
No	12	63.5	12	100
.	19	100	12	100

Source: Questionnaire

Old Banks - Afribank, UBA, Union, Savannah, First Bank, Bank of the North

New Banks - Citizens, Ecobank, Inland Bank.

More responses were obtained from the customers of the old banks than from those of the newer banks. By the time you walk into Union Bank for instance, you see many customers reclining on sofas. And if it is a bank like the Bank of the North, they are probably watching Cable News Network compliments of the bank management. By the time you present them with a questionnaire to fill for you, they are glad for the welcome diversion.

However, there are no seats in Citizens Bank or in Ecobank for that matter, what's more, there are no queues as you see in Afribank or First Bank. Everyone is in a hurry.

In these types of banks, the customers are happy they do

not have to waste time. It is no wonder therefore that none of them wants to leave in spite of the threat of insolvency. Moreso, the 36.5% of people thinking of moving must be planning to move into one of these newer banks with a much more refined computer network and varied services for their customers.

Rating the Bank's services before computer was introduced.

Table 4.5

Responses	No. of Respondents	Percentage
Very good	15	30%
Good	6	12
Fair	26	52
Poor	3	6
	50	100%

Source: Questionnaire

The aim here is to discover how the customers feel about the services of their banks prior to the introduction of computer. Here more than half of the respondents believe that the services of the banks were just fair with respect to the 30% response for "very good" more than half of the respondents are from those banks that have earlier been referred to as the newer banks.

Infact, three of the respondents from Union bank specifically rated their banks' services as "Poor". They added this last bit to the list of Very Good, Good and Fair, to show the depth of their feelings for the services they used to obtain from their bank before the advent of computers.

A corollary to this point being made is the next one.

Rating the banks' services after the introduction of computes.

TABLE 4.6

Response	No. of Respondents	Percentage
Very Good	24	48%
Good	21	42%
Fair	2	4%
Poor	2	6%
	50	100%

Source: Questionnaire

Respondents from all those heavily computerised banks continue to maintain that the services of their banks are excellent. Infact in Ecobank, one of the respondents, during an interview session told me to obtain a draft does not take beyond 10 minutes of anyone's time.

Respondents from some of the first generation Banks, like Afribank and First Bank gave their banks a pass mark after the introduction of computers. At the same time some respondents rated their banks' services poor. That is they accord their banks less than "fair" by simply writing "poor" under the list of options and ticking it. These are one respondents each, from Union Bank, Savannah Bank and UBA.

Talking about Union Bank. If you walk into the banking hall of the Yakubu Gowan main branch and ask to speak with the computer man they simply tell you that they have no computer department as such and therefore no specialised computer staff. To this end, they only have a couple of computers dotting the

hall, half of which are out of order at any point in time. The customers still receive slow services.

Some of the customers I spoke with commended the bank for making it possible for current Account customers to cash their checks across the counter immediately. However, they appealed to the management to make the amount cashable to exceed the current ten thousand Naira ceiling. This means that if you present a personal cheque for ten thousand and five Naira it has to go through the backdoor processes which may take up the better part of one or two hours.

In first bank, if you present a cheque, you are paid across the counter regardless of whether it is a personal cheque or if you are a third party. But of course, first bank is computerised while Union bank is not. Union bank only has one or two computers linked to a mainframe, which breaks down incessantly.

The advantage of computer Technology in Banks overrides its costs.

TABLE 4.7

Response	No. of Respondents	Percentage
Yes	46	92%
No	4	8
	50	**100%**

Source: Questionnaire

Without doubt, the advantages of the computer technology overrides it costs.

The Introduction of computer Technology in banks has hastened the collection of deposits.

TABLE 4.8

Response	No. of Respondents	Percentage
Yes	44	88%
No	6	12%
	50	100%

Source: Questionnaire

In such banks as Citizen, Ecobank, Inland Bank, FSB, Diamond, and other such new generation banks, you just walk into your bank, pick up your money, even when such monies run into hundreds of thousands.

In other banks like Afribank and Union bank, you walk into your bank holding your personal cheque and you can collect money not exceeding ten thousand Naira across the counter. The cashier punches your number into the computer and up comes your record. However, for monies in excess of ten thousand Naira or for cheques from a third party, the process takes a little bit more time.

In First bank you are paid across the counter, if the sum falls within a certain limit regardless of whether the payee is a third party or the owner of the account.

In most other banks like Bank of the North, Habib etc you sit down to watch television while they take their time processing your cheques.

Rating the utilisation of computer Technology in banks.

TABLE 4.9

Responses	No. of Respondent	Percentage
Very Effective	15	68.2%
Fairly Effective	6	27.3%
Not Effective	1	4.5
	22	100%

Source: Questionnaire

A computer is an effective technology where ever you apply it and the bank is not an exemption. The single "Not Effective" response recorded from Bank of the North, one could understand, seeing that, the services of the bank are not computerised. Looks like the respondent is trying to excuse their inability to computerise their services.

The "Fairly Effective" responses are from the customers of those banks with "slightly computerised" services. The customers have not seen the difference between those days of hundred percent manual operations and now that some one or two pieces of computer VDUs dot the expansive banking hall.

USAGE OF COMPUTERS IN BANKS

Insight obtained from the banks visited revealed that the computer can be used for the following:

1. **Automatic cheque sorter:** The MICR is an acronym for Magnetic Ink Recognition Cheques introduced by the Central Bank to facilitate sorting of cheques by banks. It is coded to enhance automatic sorting. Customers are constantly reminded not to fold, smear or sign across the code number otherwise the MICR will not work. The MICR

is computer assisted and aimed at increasing speed and efficiency.

2. **Deposits Processing:** The computer processes all customer account ensuring that each account reflects the correct date and amount of each transaction. In Habib Bank, the computer specialist said that the computer is especially useful in the opening of, and processing of term deposits. The same also applies to current accounts deposits.

3. **Opening Accounts:** Closely related to the point made above is that computers make the opening of new accounts faster. With computer technology, it is possible to check if the applicant has an account with the bank before this day.

In Citizens and Ecobank the spokesmen reiterated that this function is very significant especially as their banks operate an integrated network. To this end, an applicant who already has an account in a Lagos branch can operate that account from Kaduna.

Moreso, computer can very easily be used to verify the signature of the guarantors and all other relevant information supplied for the purpose of opening the account.

4. **Audit Trails:** The computer is useful in assisting the auditors to detect fraudulent activities when planned or executed. Under the manual system, when a transaction is altered, the investigating authorities usually tries to examine the handwriting in fishing out the culprit. In this era of computers unfortunately, it is not possible to examine handwriting of users. What banks do therefore,

is to purchase packages which keep a logbook of users. To this end the package will identify the user and list all the activities carried out by the user while they were logged on, and on which account. On a daily or weekly basis, the logbook is printed out and can therefore be employed to sort out all queries.

This function is listed by Savannah Bank among others.

5. **Payroll System:** The two primary outputs of a payroll system are the payroll cheques and stubs distributed to employees and the payroll register. This register is a summary report of all payroll transactions. First Bank, which is one of the numerous banks, employing computers for payroll purposes believes that this system is a most readily implementable computer solution available for the reduction of ghost workers and the management of an efficient payment system.

6. **Loans and Advances:** This function was reported by one of the employees respondents of Habib Bank. It means that the computer is being used to keep track of all money owed the bank by its numerous customers. When a customer repays part of the principal or an interest amount the customer account is updated to reflect the change, corporate management relies upon the information obtained from here to identify overdue accounts or non performing accounts as they are commonly called.

7. **Record Keeping:** The computer is used to record all transactions involving the customer. Details of these transactions are often fed into the computer and

consequently duly recorded. This includes records of all deposits and/or withdrawals made, details of loans and/or overdrafts applied for and obtained or denied, interest payable or receivable on deposits or loans accordingly and even the contact address, specimen signature, bio-data, recent passport etc are all information in the personal record of a customer that the computer can store and reproduce when required.

8. **Office Automation:** This refers collectively to those computer-based applications associated with general office work. Citizens Bank list this function as one of the uses to which the bank applies the computer. They referred to it as internal e-mail.

Other applications includes fax machine system word processing, voice processing etc.

9. **Image Processing:** A corollary to 8 above is image processing at UBA and some other banks, the cashier can access most of the customers information including the picture. After cross-checking the signature which is also there on the VDU, the cashier can also match the faces. This is especially so in the case of personal cheques. This assist the banks to make prompt payments.

Image processing involves the creation, storage and distribution of pictorial information by the computer.

10. **Arithmetic Calculation:** The computer is useful for the purpose of calculating the correct balance on each of the accounts for each of the months based on recorded transaction. Thereafter, the customers' interest can be calculated based on the balance.

It is common knowledge that the computer is

capable of adding, subtracting, dividing, multiplying and infact accomplishing all arithmetic calculations required.

11. **Statement Generation:** The computer can be used to generate statement of account for the customers. This process is very simple in that there already exists a record of all transactions in storage. All that is required is a print-out of the requisite statement of account.

12. **Financial Reports:** Savannah bank records that the computer is required for the preparation of the banks Annual Report.

13. **Income and Expenditure Ledger:** In this ledger, the computer records the income received from services rendered, interest payments receivable and payable etc. It records expenses such as salaries of staff, housing allowance, repairs or renovations done on offices etc.

DISADVANTAGES

Respondents were asked to list some of the defects of the computer systems. Here are the excerpts from their responses;

Concern about the effect of automation are real. To many people, computers mean automation and automation means loss of jobs. There is no doubt that the emergence of computer technology has resulted into the elimination of jobs involving routine and sometimes monotonous tasks.

At UBA, many workers were advised to resign or be retrenched in the wake of the introduction of computers into the bank's system.

2. **Virus:** The staffers of Ecobank are afraid of the damaging effect of virus introduced into the computer. A

virus is a programme, consciously written and introduced into a computer with a view to "infecting" other programmes or data bases. Usually, the larger proportion of viruses are intended to destroy an organisation's computer system. It is a form of electronic vandalism.

There are many types of viruses. Some act quickly by erasing user programmes and data basis. Other grow like a cancer, destroying small parts of a data base each day. Some other virus act like a time-bomb. They lay dormant for days or months but eventually wreak havoc on any software in the system when activated.

3. **Maintenance:** The computer system is terribly costly and difficult to maintain. In the first place, the users have to be sufficiently proficient in what they do because a touch of the wrong combination of bottons unconsciously may shut down the whole system.

Secondly, the computer system requires constant electricity. This has forced companies to procure back-ups in the event of power failure: besides the machines requires a cold environment for operations.

At the International Trust Bank (ITB), one of the officials interviewed lamented that even an ordinary telephone line failure may create problems in the use of computers.

4. **Fraud:** There are many types of computers crimes. It ranges from the use of an unauthorized password by an accounts clerk to steal money from a customer's account. Over 50% of computer fraud are internal misdemeanor committed by the employees of the organisation being defrauded. About 30% of these fraudsters are computer

specialists who work in the organisation's information service department.

5. **The Millennium bug:** The computer based systems failure is commonly referred to as the millennium bug or Y2K virus expected to occur with the dawn of the new millennium.

The Gartner Group, an American firm conducted a research on the Y2K recently. One of their conclusions was that more than 30% of the companies worldwide have not started dealing with the Year 2000 problem and this includes banks. The Central Bank of Nigeria (CBN) is at the forefront of the race against the millennium bug in Nigeria as far as the financial sector is concerned.

The bomb will explode on 1st of January 2000. The computer instead of converting to this date, will carry us back to the beginning of the twentieth century by converting to 1st January 1900. All the information inside of it will be so dated. Even the computer itself, with its superbrain will get confused then the explosion!

IMPOSSIBLE AREAS:

Responding to questions on whether the computer can be applied to every area of a banking operations, the respondents replied in the negative. Below are some of the areas of impossible application identified:

1. **Filing or storing of Forms:** The forms filed in by prospective customers at the point of entry into the banks have to be properly stored. It represents the contract between the bank and the customer. Whereas some of or most of the information on the forms will be transformed into the computer, the storage and/or safe keeping of the

forms can only be done by human labour.

2. **Signing or Verification of Signature:** To authorise payments, approve a customer's request for account etc, an officer has to physically append his signature. This is an area he cannot expect computer assistance. The stress of this job can only be appreciated by someone who has had to read through and approve hordes of applications.

3. **Security:** The security of a bank is best entrusted into the hands of able security operatives. Most banks feel safer that way, of course some other people rely on electronic surveillance. Goodluck to them!

4. **Public Relations:** Listening to and promptly attending to customers complaint is becoming a very important aspect of banking. In UBA the officer incharge of public relation has his seat at a place where he is easily accessible to all customers. All enquiries are handed by him.

In conclusion, seeking areas where computers can be of absolutely no assistance is a difficult job in the banking system.

CHAPTER FIVE

5.0 SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSION

5.1 SUMMARY OF FINDINGS

In line with the objectives of this study and the hypotheses earlier formulated, attempt will be made, now that results of the study have come, to merge expectations with discoveries.

In the first place, this study has successfully shown that computers are in fact important to banks. Not only this, the study has also shown that computer technology affects the bank positively and negatively. To wit, computers have made faster and efficient services possible as we discovered in Table 4.6 among others.

Computer technology has made customers more mobile than before as we discovered in Table 4.4 that, more and more people have a tendency to moving from least computerised banks to the more computerised bank.

The findings have also enumerated close to 15 ways by which computers have been employed in banks. More ways of employing computers are shown under the recommendations. The inadequate utilisation of this technology has led to the revelations in "future prospects" which, it is hoped some banks will find useful.

The universality of computer technology as a veritable tool of management information does hold true even of Nigerian banks. This is the first hypothesis. This hypothesis has tested true in the sense that all the banks studied and more employ computers in their day-to-day operations. As earlier mentioned, we discovered that some banks require it even for internal E-mail

between branches.

Computer technology, it has been discovered, is the pivot around which effective banking services rotates. For example Table 4.8 shows that 88% of the respondents believe that computers have made efficient customer service possible especially in the area of collection of deposits.

Danger of the technology were also highlighted. This includes mainly loss of information and possible unemployment resulting from a shift from labour intensive method of production of services to capital - intensive method of production.

5.2 RECOMMENDATIONS

From the findings, it is obvious that computer technology is inevitable in the banking industry. It has a profound effect on the degree of banking services provided. Therefore the following recommendations would guide the Nigerian banking industry in the provision of efficient, effective and quality customer services.

A UTILISING THE COMPUTER MAXIMALLY IN BANKS

i. **Credit Analysis:** Whereas only one or two banks employ the computer for this purpose, it is the considered opinion of this researcher that all banks should graduate to this level. Credit Analysis permits the banks to know the amount of money given out as loans at any given time. The proportion of these loans that are performing and vice-versa, the nature of the business such loans were invested in. Most importantly, the computer will be able to analyses a prospective application and advise the management on whether to approve a loan or not.

ii. **Funds Transfer:** The electronic fund transfer and others such transfer shave been around for sometime.

However, there are still some banks where the customers go through a lot just to transfer a small amount of money from one part of the country to another, using the same bank.

Infact, while I was interviewing a customer of Union Bank Kaduna main branch, he lamented that he had sent a small amount of money to the Ilesha branch in Osun State from Kaduna main branch. And that after more than four weeks the money had not been received. Commenting on this issue an employee of the bank confirmed that this may occur if auditors happen to be around on the day such transfers are made. He says the auditors may pack such documents and it may take weeks getting them out.

Whereas this sounds like an excuse, the fact is that if Union Bank had been fully computerised this incidence would probably not have occurred.

iii. **Computer Update:** The systems most banks parade are absolute. Banks therefore need to constantly update their software as well as the hardware. Computer is a recent phenomenon and the research on it is a continuous exercise. Therefore improvement is a daily affair.

iv. **Free Services:** Banks can provide free services for their customers and visitors alike. Some of these services are already evident in top class hotels of today.

Flight schedules, names and addresses of first class hotels and restaurants can be relayed on and off in a banking hall, such services as these cost next to nothing.

B. NATURE OF PACKAGES REQUIRED

In the banks computers bought for accounting

purposes cannot just be selected randomly. By the same token, the packages used must be "user-friendly" and therefore requires some careful selection. In Nigeria most firms buy their packages off the shelf. The following are reliable tips to know before buying a package for accounting purposes.

i. **Number of Account:** The number of accounts contained in each package differs. Therefore buying a package, it behoves on the bank to consider the number of accounts currently available vis-a-vis the number that will be required in the nearest future.

ii. **Maximum Transaction:** This refers to the largest sum acceptable to the system. This value will vary depending upon the location of the bank or branch of the bank, for the example, an Abuja branch may require N999,999.99 (Nine digits) whereas a village branch may require only six digits. The cost of the package varies with the capacity.

iii. **Maximum balance value:** This is synonymous with the one discussed above except that in this case we are referring to maximum total balance allowable into an account rather than the maximum of a single transaction. This figure will traditionally be higher than a transaction figure.

iv. **Menu:** The vast majority of accounting packages are menu-driven. Some off-the-shelf packages contain a user-customersation option which allows that user to alter the menu style to suit their own requirements.

v. **Help:** Some packages contain additional help screens similar to those used in word processing, spreadsheets and data-base packages. These can be referred to by

operators as "memory joggers" and may be useful where certain parts of the programs are used less frequently. More especially when the program is being employed by a new staff recently employed.

vi. **Password:** It is also significant that banks purchase programs that already have password to prevent unathorised access. The advantage this has over the one earlier discussed is that top quality programs have different levels of security and therefore each user which has been cleared for a password is limited, accessing only those parts of the program that are necessary for the performance of his duties. This goes a long way to reducing fraud related cases in banks.

vii. **Back-ups:** The problems caused by loss of data are so enormous that it is imperative for banks to ensure that they only procure packages that has good back-up.

In the final analysis, I will like to add that:

i. Computer knowledge be made a prerequisite for the bank jobs. This will relieve banks of the cost in terms of time and money required to train new employees.

- 476706

ii. The bank customers be advised on how they can successfully operate the Automatic Teller Machines (ATM) this however concerns only those bank that have employed the ATM. As at the last count there were only two banks, both trying it out in Lagos. However, by reason of the constant breakdown of the machine due entirely to poor usage, it is good if banks ensure that only educated folks gets linked up to the ATM after a proper job has been done of

teaching them how to use the machine.

iii. It is a fact that plenty of records have been lost due to failure of electricity. It is therefore advisable for banks to procure back-ups which they say can work for a reasonable long period of time after the failure of the main electricity supply.

While they are at it, banks may also want to consider purchasing the relevant stabilizers necessary to combat fluctuations in electric currents in the few hours of the day that the local authority leave the electricity on for us to use.

iv. It is also significant that banks have computer personnel, In Kaduna main branch of the First Bank there is only one, in Union Bank all of them are users, the UBA even tried to have a computer department with a staff of about three. These three oversee all the computers installed in all the UBA branches in Kaduna and its environs.

v. Banks should ensure a strict separation of the coding system used. This is to make certain that only authorised persons access information on the computer.

In all, user must understand that they are there to think and reason for the computer. To feed the computer with the necessary instructions, they must also understand that the computers are not there to relieve the humans of their duties, but they are there to assist. The computers need humans to perform.

5.3 CONCLUSION

After a careful review of relevant literature and an analysis of the data presented , the following conclusion were made:

1. REASONS FOR EMPLOYING COMPUTER IN BANKS.

Some of the reasons given by the officials of the banks spoken to, are similar in form and content. The objective, if achieved, will make banking transactions easier and even enjoyable for both customers and employees.

All the banks said that their computers were installed to make balancing of books easier for the employers at the end of the day. With the recent spate of expansion and consequent increase in the number of bank's branches and activities, some aspects of banking operations have grown to be very voluminous. A good example is the ledger cards. To this end, computers were installed to help save the long hours consumed on clerical jobs and the boredom often associated with it.

Computers have been described as fast, efficient and accurate. Therefore, wherever they are introduced, this technology manages to increase the operational efficiency of the institution with the increase in banking efficiency, an increase in customer satisfaction is also generated. Since banks handle money which mostly belong to other people, it is necessary to adopt a system that reduces operational errors to the barest minimum.

For organisations that are cost conscious, computers reduce the long run average cost of operations. This is one area most of the representatives of the organisations being x-rayed prefer to be evasive. However, it is common

knowledge that an organisation either embraces capital intensive method of production or the labour intensive method of production. The introduction of computers into banks, is without doubts an adoption of capital - intensive method of production. This therefore requires use of more machines and a handful of human labour to boot. Whereas these machines may involve a lot of company capital initially, the savings from the staff laid-off after some years tend to compensate initial expenditure.

Computer give a bank competitive edge over its rivals. In this modern world of technology, a firm that delays the installation of advantageous machines may be left behind. As it were, this computer technology is a global thing. Telecommunications is becoming essential in a rapidly changing world financial market. Businessmen therefore require a bank that can compete favourable with any in Europe and America, a bank that will serve their business purposes with speed, reliability and accuracy. A global bank.

Another reason given for the installation of computers in banks is the need to ensure accuracy of data transfer. It is much easier for computers to record accurately what has been fed into it. In some cases, computers have the capacity or the capability to cross check information that has been fed into it. Most of the errors in computers are errors arising from the imputation of data into the machine by the user. These are human errors. On the other hand, in the days of manual accounting data transfer were filled with human errors.

A corollary to the point made above is that reports

obtained from computers are usually very neat and legible. Compare this to the days of manual accounting when papers may be smeared with ink, recording dotted with cancellation and some handwriting even illegible.

The use of computers permit the security of sensitive bank records. This is more so since main computer terminals are out of bound except to a handful of carefully selected staff. Those who do not have authorisation may not be allowed to tinker with the computer. Besides, computer have a memory where most of these sensitive materials are stored. A cleverly deviced and frequently altered coding system helps to ensure that only authorised personnel with the key to the codes can access the computer. Even for PCs that are on the counter, only the cashier at the cage may access it. Infact a cashier often ensures that his cage is locked whenever he has to go out.

Added to this is the fact that computers reduces to the barest minimum the avenues for fraud. During the days of manual accounting, a stroke of pen could alter figures from hundreds of thousands to millions. However now, with the introduction of computers, fraud is made difficult because.

a. Most good packages exist which can prevent a user from deleting an account which has an uncleared balances.

b. There also exist special operations logbook of users which most packages usually keep. As earlier discussed, this logbook will record all of the activities logged on. The name or code name of the user is also recorded. At the

end of each day or each week, the logbook is printed out and can be retained to sort out any queries or can be kept for the auditor to inspect.

c. To aid the special operations logbook, most packages also keep daybooks. These daybooks used in ledger packages list every transaction entered in the ledger in order of date of entry. Most daybooks show the date of each transactions, the reference for each transaction, the source document, the amount and the transaction number. The transaction number is "carried" with the transaction into the main account. This enables the auditor to follow the trail from the daybook into the account.

d. The use of cleverly designed codes prevents unauthorized access to the computer. Most nominal ledgers allow the user to select his or her own account codes and partition them in the way required.

By careful selection of passwords it is possible to authorise supervisors to create accounts and to also authorise clerks to input data only. For this reason there are packages in existence which have an opening menu. The opening menu has "entering data" and "upgrading accounts" listed as two separate options.

2. **FUTURE PROSPECTS** - 476706

There are some services that banks, with the aid of computers will be expected to develop in the near future in Nigeria. The good news is that some of these banks are now responding to these changes. These changes have been tested and certified in the more developed nations of the world. Their introduction into the Nigerian banking system is just a question of time. Some of these services are:

a. **Frontline Banking:** This is a situation in which every cashier in the cage has a computer before him. To this end, the cashier can pay at the counter all cheques presented by simply checking the customer's balance and other requisite information on the computer.

This practice, whereas it has already been introduced by some banks, has not been fully operationalised. In some banks, only personalised cheques will be cleared at the counter. In others, even the personalised cheques must not carry an amount in excess of ten thousand naira or else it gets subjected to the time wasting, nerve roaking procedures of the bank.

Improvement can still be made in this direction.

b. **Global Banking:** This is the practice by which the customers of the bank can transact business from any of the bank's branches nationwide. In Ecobank and FSB etc, where this is widely practiced, if a customer opens an account with Ecobank in Kaduna for instance, he can pay cash into his account in any of the bank's branches nationwide. What is more! He can even withdraw or pay in money through a third party. Only a handful of banks provide these services. It will be beautiful if others will join in.

c. **Internet Banking:** This is a system which permits a customer to open account, request for balance, transfer funds etc from his bedroom or wherever. The way this system works is very simple. A bank is linked to the internet. The customer through pre-arranged codes access the bank's computers and therefore informs the banks what to do.

This is made possible through the Encryption Tool

which we have earlier discussed. These tools are powerful data transport system that can be enclosed in a closed pipe to ensure that data therefore can neither be tapped into nor redirected.

Internet Banking is already been advertised in Lagos

d. **Industry Database:** This provides the banks with information and empirical data on the industries financial position. Often times, loans to infant industries, whether syndicated or not are not based on any serious empirical data. Projected customer's assertion about demand and sales are accepted without verification or authentication. As a result several such projects fail from conception in the absence of realistic economic database to assist in the evaluation of the venture.

The industry database, if properly developed provides the required evaluation that will assist banks in deciding upon which loans to give and which ones to reject.

e. **Electronic Funds Transfer:** This allows credit of customers account anywhere in the country electronically. By so doing it provides a subtle way of transferring funds without physical relocation of cash. Besides the transfer of funds, the EFT is also useful for automatic payroll deposit, electronic cheques, pay-by-phone services etc.

The basic difference between the EFT and Global banking is that the customers concerned required two accounts in the case of the former. One at the point of origin and another at the destination. In the case of Global banking, the customer requires only one account. All he needs after that is to remember to carry his cheque book along with him wherever he goes.

The Universal Trust Bank is seriously into EFT. UBA Moneygram and Union bank global EFT are other example of electronic banking.

f. **Automated Teller Machine (ATM):** This computerised machine does the job of a bank teller. That is to say that it can make payment across the counter and/or give information to a customer.

Access to the ATM is through a Personal Identification Number (PIN) and a plastic card for identification purposes. The PIN differs from one customer to the other and it expected to be undisclosed. That is to say only the user knows the number. To activate an account, the customer inserts his card into the ATM and presses his PIN. If the PIN is accepted the customer now types out the service required.

The ATM may seize a card if the customer presses the wrong PIN to go with the card. Wherever it rejects or seizes card the ATM gives reasons.

The ATM does withdrawal, savings, provision of balance, printing statements, transfer of funds, payments of bills etc.

Only Societe General Bank and First Bank Plc have ventured into this 24 hours service and so far it is still limited to Lagos area.

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QUESTIONNAIRE FOR BANK CUSTOMERS

This questionnaire is meant for a research project on "Effectiveness of computer technology in the banking industry".

Any information submitted here will be kept strictly confidential and be used for academic purpose alone.

1. What is the name of your bank?

   .....

2. How long have you been with your bank?

   .....

3. What are your reasons for your interest in this bank? is it

   a) Efficient customers service
   b) Timely collection of deposits
   c) Historical background
   d) Employers choice
   e) Presence of a relative or friend
   f) Accuracy of records
   g) Other banking services

4. If all of the above reasons are of interest you, could you arrange them in order of importance.

   a. .....
   b. .....
   c. .....
   d. .....
   e. .....

5. Are you familiar with the capabilities and technology of the computer?

   Yes { } No { }

6. Has your bank introduced computer technology into its system?

   Yes { } No { }

KASHIM

7. How will you rate the customers service of your bank before computer was introduced.

Very good { } Good { }
Fair { } Poor { }

8. How will you rate the performance of your bank after the introduction of computer technology?

Very good { } Good { }
Fair { } Poor { }

9. Will you say that the introduction of computer technology in your bank has hastened the collection of deposit?

Yes { } No { } No idea { }

10. Which areas will you suggest that computer technology should be applied in the bank?

a. .....
b. .....
c. .....
d. .....
e. .....

11. Are you thinking of changing banks?

Yes { } No { }

12. If yes, Why?

a. .....
b. .....
c. .....
d. .....
e. .....

13. Could you suggest some ways the bank can improve their services?

a. .....
b. .....
c. .....
d. .....
e. .....

AHMADU BELLO UNIVERSITY
DEPARTMENT OF ADMINISTRATION, ZARIA

QUESTIONNAIRE FOR BANK EMPLOYEES

This questionnaire is primarily designed to obtain reliable data on the beauty and the ills of computer technology in banks, this the primary objective of this study.

It is therefore imperative to note that these questions are purely academic in nature. To this end your response will go a long way in determining the out come of this study.

Please tick appropriately and where necessary. In some case you may be required to fill the blank provided.

The information in this questionnaire are confidential and must be treated as such.

1. What is the name of your bank?

   .....

2. How long have you been working with the bank?

   .....

3. Has your bank introduced computer technology into its system?

   Yes { } No { }

4. How will you rate services of your bank before computer was introduced.

   Very good { } Good { }
   Fair { } Poor { }

5. How will you rate performance after the introduction of computer technology?

6. List some areas where your bank has successfully applied computer technology in its operations.

a. .....
b. .....
c. .....
d. .....
e. .....

7. How effective is the application of computer technology in these areas.

Very effective { } Not effective { }
Fairly effective { }

8. Which areas are the use of company very effective.

a. .....
b. .....
c. .....
d. .....
e. .....

9. Which areas are the use of computer not effective.

a. .....
b. .....
c. .....
d. .....
e. .....

10. What are the reasons for the ineffectiveness of computer technology in these areas.

a. .....
b. .....
c. .....
d. .....
e. .....

11. Are there any disadvantages of computer you can point out?

a. .....
b. .....
c. .....
d. .....
e. .....

19. Does your bank have professional computer personnel?

Yes { } No { } No idea { }

20. Does your bank organise computer training programmes for its workers?

Yes { } No { } No idea { }

21. If yes why?

a. .....
b. .....
c. .....
d. .....
e. .....

22. Using the cost benefit analysis, does the advantages of computer technology in banks overrides its cost?

Yes { } No { }