

**TITLE PAGE**

**COMPUTER AS A TOOL FOR BANKING OPERATION  
A CASE STUDY  
INTERNATIONAL TRUST BANK PLC SOKOTO**

A PROJECT SUBMITTED TO THE DEPARTMENT OF  
MATHEMATICS AND COMPUTER SCIENCE IN PARTIAL  
FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD  
OF A POST GRADUATE DIPLOMA IN COMPUTER SCIENCE  
FEDERAL UNIVERSITY OF TECHNOLOGY MINNA

**BY**

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## CERTIFICATION

THIS IS TO CERTIFY THAT THE RESEARCH CARRIED OUT BY ZUBAIRU ABDUL (PGD/MISC/2000/2001/1012) OF MATHS/COMPUTER DEPARTMENT IS FULLY ADEQUATE IN SCOPE AND QUALITY FOR THE AWARD OF POST GRADUATE DIPLOMA IN COMPUTER SCIENCE, FEDERAL UNIVERSITY OF TECHNOLOGY MINNA.

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DATE

THIS RESEARCH PROJECT IS DEDICATED TO MY BELOVED WIFE:  
MALAMA SAFIYA ABUBAKAR AND THE ENTIRE MEMBERS OF MY  
FAMILY WHO HAVE TO BEAR WITH ME DURING THE COURSE OF MY  
RESEARCH

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## ABSTRACT

The main aim of undertaking this research was to find out role of computer in the banking system or the impact of automation (computer) in the banking sector. Also to develop a function using MS-EXCEL which could be used effectively, to calculate the payments for a loan based on constant payment and constant interest rate.

It is likely that some people want to know whether computer has impact in the banking system or not. From the analysis of the data being collected during the research work it appears that computer in the banking system has bring a positive impact in the banking services. Computers also improved management in the system.

Therefore, today with computer into our banking system, the activities of banking has been simplified and speed-up the operations. Therefore computer served as an important tool in the banking operations.

With this, the researcher therefore recommended the use of computer into our banking system both at the local level to the National level, in short worldwide.

## CHAPTER ONE

### 1.0 INTRODUCTION

In a society that is increasingly moving towards heavy reliance on automated handling of information, computer systems are bound to be very important.

Prior to industrialization, over 80% of the labour were involved in the use of computer has become appreciably popular in recent years in Nigeria and the world at large. Companies, banks, industries individual and functional heads of many establishments have introduce computer programming and analysis to consolidate their activities.

The acceptance and usage of computers, become very important tools for efficiency, improvement and task execution. Computers are becoming widely use in an increasing number of applications and this growth is taking place at such a rate that in this next decade very few institutions will be unaffected by computerization. At present there are computers in the world used in many different ways.

Computers in bank plays an important role for easy access to customers accounts, it also provides room for easy creation, maintenance, processing and rapid updating of their information. The role of the computer in the banks does not stop there, it moves and touch the most sensitive aspect of customer account/information which is the security aspect. In a bank where computers are well-implemented access to their facilities is only possible to those being authorized by the management. Therefore computers in the banks can surges an emergency treatments procedure of customers.

Therefore in the present days, the use of computer can hardly be over emphasized on every human endeavor. If any meaningful achievement is to be recorded in terms of efficiency and effectiveness. The requirement of reliable information and data for

administrative plan, monitoring and evaluation of banking system, therefore the use of computer in processing, storage and retrieval of information (as an output), for preventive, curative and reliability banking services to the populace is inevitable.

If one looks at the most prominent reactions to computers in our society from the "do not paid, staple, or mutilate" protest signs to the excitement generated by computerized space capsules the most appropriate title for a discussion of the social implication of computers technology might appear to be computers: curse or blessing? Computers has excited the public imagination and has generated both great fears and great hopes. It has become a symbol for all that is good and all that is evil in modern society.

#### 1.1 GENERAL DESCRIPTION OF SUBJECT AREA.

The name Gamji is derived from Savannah tree characterized by might not and protective shade of leaves which spread over in an umbrella like manner akin to a English ope tree. Thus providing protection to all beneath it.

Gamji bank Nigeria pl.c , was established and incorporated in 1981, it however become freely operational in 1983. The bank area registered as Sokoto State cooperation bank with an authorized share capital of ₦10,000,000, out of which ₦ 3,000,000, actually paid in 1981. As a result of expansion with direct position of management, the bank changed its name to Gamji bank as a commercial banking 1987. Gamji bank has 3 main objectives just like any other commercial bank in the country. Firstly providing financial

assistance in from of laws to indigenou persons, institutions and Sokoto state government for medium and short time.

Secondly it was also established to extend banking services and habits to rural areas thus it is an important step to engender not only spread of banking habits in the banking density of the country. It is also fashioned to enhance development of rural areas and hence, stem roots influx into urban areas.

Thirdly to perform and conduct other commercial banking business in line with country's banking requirements. It also empowered by the management to assist indigenou business within its area of jurisdiction in identifying visible project.

Since 1989, an ambitious computerization programme was adopted. Lagos branch an Area office has been computerized since then ordered Sokoto main and Sokoto market branch is now been computerized.

Towards the end of the second quarter of 1998 (i.e sep 1993) the branch market changed the name from Gamji bank ple to International Trust ple. The International Trust bank Sokoto ple was located along kano road, near bank of the north ple.

ITB is a well-structured bank with a well-defined information technology. Computerized system. The International Trust bank is an active participant in the treasury operation of the money market ensuring that her various customers receives the best returns on their deposits. The International Trust bank ple, Sokoto is manned by the following personnel:



### The Branch Manager

The branch manager is the most senior official, he is always an experience banker, versatile in banking operations, generally and credit analyzing and appraised in particular.

### The Accountant

The accountant is responsible for the day to day organisation and administration of the bank. His area of responsibility is restricted to the bank operations and the accounting side of the bank. Thus his main responsibility is to ensure the smooth and efficient running of the bank

### Other Officials

Other officials of the bank include officers who report to the accountant. These officers' sign vouchers before they are referred to the accountant or the manager to sign, after ascertaining the genuineness and correctness of the entries on the vouchers. There are also a cashier who receives and pay out funds to the customers, account clerks, messengers, drivers, cleaners and security to the manager. They are all under the supervision of the accountant to the bank.

## 1.2 The Significant of the research work

The significant of any research work is to find out the general changes and improvement computers bring in the banking industries. And to show the general importance of using computers in our banking system to the manager, staffs and customers of the bank.

Computers in banking industries bring about greater efficiency, effectiveness and wide utilization of banking system which design to provide services for the establishment, maintenance and promotions of the banking services of a given population and global community. These services include bank policy development of strategies, planing and development, management of bank services and programmes by the manager, determination of cost and resources needs and utilisation to ensure optimum quality banking services.

Another significance of the research is to bring more knowledge on how banking services can be simplified. Also computer in the banking system, bring about greater efficiency, effectiveness and fast method of storing and retrieval of customer information. Computers in the banking industries reduce the tedious work usually involved manual methods of processing records.

The importance of computer in the banking industries is to bring about the emergency of banking procedure, put an end to the era of mechanical and laborious banking which whispers to the mind of the people the impossibility that can be solved by the computers.

In general computers generate speed, accuracy, efficiency and effectiveness and greater utilization of banking system to the local banks that have no computers as a tool. Specifically the low level banking policy development to ensure optimum quality banking services.

Another importance of the research work is to bring the mind of bank personnel to appreciate the various roles played by computers in the business system.

### 1.3 Objective of the research work

The objective of the research project is to deal with how a computer contributes in their capacity to their attainment in the banking sectors. This can be done or achieved through the use of modern technology i.e. computer system to:

- (i) Show the areas used by the computers in solving the problems associated with the banking industry.
- (ii) To analyzed and highlight on how computer help managers and bank staffs in processing, retrieval and maintenance of the customers information/records.
- (iii) To analyzed the implication of computerization in banks with regards to replacement of manpower with computer technology.
- (iv) To show merits and demerit of computerization in the banking sectors.
- (v) To provide a more comprehensive and detailed reports of the various activities involved in the banking system.
- (vi) The objective of this research work is to find a possible solution that will solve some of the problems in research questions. As the project also intends to show how computer contributes to the efficiency and accuracy in banking sector by the modern technology- computer banking products.

Finally from the analysis of the area of study, to the local banks the importance of the computer in the banking system.

#### 1.4 Research questions

In this research project, we will be able to answer some questions regarding the problems that are militating the uses of computer in the banking sector, because some people regard computer as an unfriendly agents of distraction and bring about unemployment to other people. So for that it must have some disadvantages. Some of the research questions are:

- (i) What are the areas used by the computer in solving the problem of banking sector
- (ii) Is there any implication of computerization in the banks?
- (iii) What are the general problems of using computers in the banking industries?
- (iv) Can computer help management in the bank?
- (v) What is the frequency of the activity performance?
- (vi) What performance controls are used?
- (vii) How are the problems been detected?
- (viii) How problems are handle?
- (ix) Is the calculation of interest to customers on either their credit balance or their loan advance can be done with the used of computer?
- (x) For security purpose is it possible to have the customer and the staffs information of the bank be stored in a computer?

#### 1.5 Problem Analysis

With the current development efforts all over the world, computers are playing a lot of roles. Before examining a possible integration system, it is necessary to consider the

reason why there has been little involvement by the industries, banks and in particular, the professions in the use of computers. Inevitably, many of these systems were badly operated and this gives rise to all the stories and jokes and criticism, which were eagerly told in order to reinforce already established resistance.

Looking at various angles of the world today, the rate at which computers are now dominating the business world is something that should be recognized and be conscious about, but in some corners of the world too it is not encouraging to use it as a reliable tool. For example traditional banking services limited to loaning, accepting deposits and controlling or handling documentary bills for collection instead of calculating the interest of the deposit, balance, salary net pay of staffs

Apart from the rigorous procedure, people had to contend with bank customers in some localities were naturally made to spend several hours in the congested banking hall in the process of either depositing cash or cashing their cheques or other transactions due to the congestions in the banking hall. This makes it necessary to provide facilities, which will reduce or alleviate the waiting time of the customer.

There is also the problem of inadequate manpower, problem of communication, for instance in the developed countries where the internet is playing its role, a branch bank can communicate with the main branch at far distance place when the problem arises. Either on accounting part or within the bank premises, lack of efficiency, ineffectiveness and problems of transportation.

However the emergence of computer in banking products, put an end to the era of mechanical and laborious banking. This is to prove and show the need for computer in the banking industries.

## 6 Scope of the Research Work

This project will cover the area of how funds can be transfer locally through the bank cheques, and bank payment, and clearing areas through bank draft, mail transfer or telegraphic transfer.

Storage of customer's particulars and net salary of staffs through programme communications, this can be informed in statement accounts sent to the customers periodically.

Office administration, calculation of interest of customers on either their credit balance or their loan advances, cross checking the customer account automatically.

Most importantly, computer banking products such as automatic teller machine and electronic fund. Transfer and others to be measured.

## 7 Research Hypothesis

A hypothesis can be defined as a tentative statement which researcher makes to enable him studied a fact. It is a theory to be proved or disproved by references, to facts.

For the purpose of this my research project, the hypothesis will include the following:

(i) Null hypothesis

(ii) Alternative hypothesis

) Null Hypothesis ( $H_0$ )

Computer technology has not increased the efficiency of operation in the banking industry

i) Alternative Hypothesis

Computer technology has increased the efficiency of operations in the banking industry.

## 1.8 Limitation of the research work

This research work is basically limited to the impact of computer in the banking operation, with a view of developing a function using M-S EXCEL which could be used effectively to find the amount for the payment of loan based on fix interest rate over a period of time.

## CHAPTER TWO

### 2.0 LITERATURE REVIEW

Banks operations usually go most other profit maximization business organisation. It therefore, relates in many important ways on in the private sector in spirit, therefore of institution and organizational development that has taken place in the banking industry. Since the country's independent the banking system still retains the features of the financial. Under developed countries.

The importance of banking system to the economy means changes in growth and structural development enable us to measure roughly and to appraise the economic systems school and performance. These development however will also enables us to examines the ownership structure of the banking system is well the legal and regulatory framework within which the institution of the system operates.

The research project also intends to review application of computer system in the banking activities and also sample in preparing the project and how they reveal computer as tool for banking operations. But then in the application of computer in the banking activities increase more tremendously, we must not therefore refuse to mention some of the notable contributors who have air out there view about this new revolution in banking industry.

All categories of driven by survival instinct in continuous struggle story a float in the highly competitive sector, have come out with one innovations and other in term of product or mode of service to customers. Computer in banking industry has taken the first place in term of mode of services with it characteristics enhance speed, conveniences and efficiency to both customers and bank officials.



By K.A.O Shonikan.

ATM Customers now enjoy 24 hours of services in which case weekend bank will be unnecessary as soon as ATM (automatic teller machine) is able to accept deposits and give account balances.

By Ojo Adet

“You can observe the improvement here as one of our customers, the system and your account is updated within the shortest possible time which is not comparable with the 80's. This is the work of computer.

By C Cadorere 1997.

The computer security algorithm and the practice is to immediately distribute hotlist (list of lost cards) and warnlist (list of missing cards) to terminals which serves as cashier receiving money when the warn cards presented to reject it instantly and fraudulent foiled.

By Aladekomo May 4<sup>th</sup> 1997.

The commercial banks in general have always operated three types of accounts such as savings, current, long term and short notice deposits for their personal and corporate clients. Those transactions further gave rise to a variety of banking relationship and product lines. Generally banks provide funds mainly through loans and advances, overdraft and other forms of credit to deflect sector of economy. As financial intermediates they also provide a mechanism to effect settlement of financial transaction and debt obligations on behalf of their clients.

By performing those banking service, the banks earn most of their income through interest and commission charged on the services rendered. In the past the primary

ce of income in the commercial banks has been through those types of services. Due economic downturn in the most developing countries and the subsequent industries vision for bad and doubtful debts, income-generating instruments have been focused y from bank traditional assets (loan and advances) to the very short-run foreign range transaction and their instruments.

In the united state of America (USA) bank customer in one part of the country can a computer located many thousands of miles for a report on their current bank ount and have statement drop laid almost instantly on a television screen at their local nch of the bank.

DAVIDSON (1973)

Banking institution is now progressing in Nigeria, inwhich we have banks that are ning Internet such that all their customers can collect or withdraw from their account any of their branches. "The country Nigeria" majority are now having local network AN) or private Network such as ITB and almost all there operations are now mputerized. Majority of banks in Sokoto today, is now using computer to serve their stomers.

ALIMI O.M (1994)

Computer operations are playing an increasingly important role not only in spitals, libraries, schools and homes, but also in banks. Banker are realizing that nding and receiving information electronically offers several advantages.

Fast accurate and direct exchange of information. Sending and receiving data ctronically takes only a fraction of the time needed to send it by mail or messenger.

And since the information goes directly to the receiving bank, the sender doesn't have to worry about lost packages or incorrectly addressed envelopes.

Rapid information processing computers can sort or search through huge amounts of information in a flash. And computer communication can increase availability of information.

Easy handling of large amounts of information. The amount of data that computers can store and process is enormous.

BY STONE (1979)

As computer technology continues to advance, it is not unusual for communication poses more than a growing cost problem. The communication facilities desired are often not available at any price.

As is well known, the FCC launched a formal public inquiry into computers in the late 1976, thus taking the rather unusual step of initiating an enquiry before a formal request by outside parties. The problem presented by the convergence of computers had heed slowly growing since the early 1960's.

In the late 1966 and early 1967 western union offered a new set of packaged data processing and communication services called S'CORN AND INFO-CORN by John (1972).

Communication packages- This is the software that helps connecting two devices over a short or a long distances like connecting two microcomputers, or through modem and telephone line and then the mini or mainframes computers in electronic mail system such as Telecom Gold, or Easylink. Then there is need for something to take over control

of machine and link them together. Examples are top-link, Kermit, IBM LAN manager, Netcom, window 98 etc.

### 2.1 History of banking in Nigeria

According to John N. Aliu the colonial era witnessed the monetisation of the Nigeria economy, but the country never had its own financial arrangements within the financial system of the metropolis of Great Britain.

The various Europeans trading firms spread their branches all over the country mainly concern with buying produce needed by their countries. They normally paid for their in cash or in paper receipts when accepting that most of the funds would be spent in their own store.

They would advance goods to trusted traders, who took down to the remote villages and brought produce in return. Some traders were granted credits at the European stores, which were together renewed or paid off within a month against the personal guarantee of chief executive.

Such practice by these firms varied among company and region. In 1889 for instance, John Holt and company issued the instructions to their agents requesting that all prices paid for produce should be fixed in starting. The accusation that some European traders made use of barter to cheat their suppliers and customers was widely reported for many years. The change over to straight cash transaction did not occur overnight, it was gradual. By 1890 however, the use of cash had grown sufficiently throughout West Africa that is presented a serious physical problem. This brought about the introduction of Britain coin in the late 19<sup>th</sup> century.

However the cost of importing and distributing cash from the United Kingdom became a problem and too cumbersome and any sensible trader must have hoped for the revival of some institutions which will reduce this overhead. The initiation for the foundation of the bank was taken in the Lagos office of Messrs. Johnston and company in 1891.

African Banking Corporation was given approval on 13 August 1891 and the first branch of the bank in Nigeria was opened in 1892. This is bank of British West Africa (now first bank) which was registered in London on 31st March 1894. Since then it maintained the monopoly of banking until 1917 when Barclays Bank DCO (now Citibank of Nigeria PLC) also joined.

These early banks were believed to have been established by the colonial masters who served their commercial and administrative interest. The promotion of indigenous entrepreneurship was very low in their list of priorities.

As mentioned earlier, bank of British West Africa and Barclays Bank DCO dominated the banking scheme for a considerable length of time. Some other foreign banks also joined the scheme later but other than mobilization of savings among indigenous population, they had little response to the economic development except in so far as this conformed with the objectives of colonial policy. Since then, efforts were made by indigenous business to break the monopoly and in view of the free banking era at the time, attempts were made to establish indigenous banks in order to cater for local needs. Unfortunately most of these banks failed except the central bank of Nigeria established on 11 February 1933, African Continental Bank 1947 and few others.

however, up to the end of the mass bank failures era which ended in 1952, quite a number had either not taken off or failed

Various reasons were deduced ranging from financial mismanagement to accounting inefficiency. In order to safeguard the depositor money, the need for regulation for the control of banking in Nigeria become apparent and the first banking ordinance was enacted in 1952. Despite this, some banks were still indulging in some malpractice, which the act could not efficiently control. There was also the desirability of a National financial system. This prompted the necessity of establishing the central bank, which opens its doors on 1<sup>st</sup> July 1959.

## 1.2 Interest processing

According to International Trust Bank plc, interest is calculated at the rate specified by the bank (i.e Savings and Current) and the rate agreed between the customer and the bank (i.e Term deposit received and Short notice deposit). The payment may be made by transfer of depositor's account as per instruction of the depositors. In case of cash payment, a cash-debiting voucher will be prepared.

## 1.3 Current Account

In this account, interest is a bank earning interest or credit on favour of the bank. When a customer is given some loans (i.e payment be against his salary), the interest earned by the bank is called commission on turn over (COT) it is processed as  $5/1000/\text{day}$ . Usually bank allocated interest on monthly basis but not being paid until end of quarter, the minimum amount the bank considered in paying interest is 500,000, and the interest rate is 1% per month.

Example- For a person with loans of 100,000 on COT, the interest is as follows:

$$\text{interest} = 100,000 / 100 = 100 \times 5 = 500$$

∴OI=500 each day. Then his balance will be 100,000-500=99,500 for a day.

For a customer depositing amount say N500,000, his interest is:

$$\text{interest} = 500,000 \times 1 \times 1 / 12 \times 100 = 5000 / 12 = \text{N}416.66$$

The monthly balance will be 500,000+416.66=N500,416.66

## 2.4 Savings Account

The interest is being paid in favour of a customer at the interest rate of 5% monthly since the bank use customers money to generate funds. The withdrawal can not be allowed until the end of the quarter.

Example: For a customer depositing N1, 000,000,

$$\text{Interest} = 1,000,000 \times 5 \times 1/100 \times 2 = \text{N}4166.66$$

The monthly balance is  $1000,000 + 4166.66 = 1004166.67$ .



## CHAPTER THREE

### 3.0 System analysis and design

In this chapter we analyzed the operation of the banking system, so that existing problems will be identified and computerized version developed.

### 3.1 BANKS

The banks are agencies, which provide numerous services to the society at large. Banking is generally defined as place where money and other valuable properties are left for safety. These properties range from money, jewellerys, personal documents and such vices.

One of the special features of banking in Nigeria generally, is the division of banking into expatriate and indigenous banking system. Expatriates banks are those that are foreign owned with little or no indigenous involvement and incorporated outside Nigeria. Banks in these categories have access to overseas liquidity from their head offices, example united bank for Africa (Bank of British and French), Barclays bank, Union bank of Nigeria, First bank and standard bank etc.

On the other hand, indigenous banks are those bank owned and operated by Nigeria's with this head office in Nigeria. In most cases, indigenous banks originated from state support and assistance. Examples of banks in this category are Bank of the north (BON), universal Bank, Gamji Bank, (now international Trust Bank)

Banking covers so many services that are difficult to define it. However those basic services have always been recognized as the hallmark of the genuine Banking. Those are the receipt of the customers deposit, the collection of his cheques drawn on other bank and the payment of the customers cheques drawn on himself.

The research project is interested in assessing the operation and performance of a second category of Bank divisions that is indigenous Bank using international trust bank as a case study.

## 2 THE MARKETING OF BANKING SERVICES.

The introduction of competition and credit control in (1971) stimulated competition between the Bank and the term marketing began to be mentioned it is simply defined as selling services profitably to meet the needs of customers but this simple definition covers a great deal of preliminary work.

First you have to have services to sell. To know which services customers require here has to be market research. You have to ask customers of what they expect or would like from the Bank. You can not ask them all, so you have to ask what you hope is a representative cross-section and as customers in different areas with different life style are used to differentiate things you have to research in different parts of the country.

The Bank hardly ever thought of market research on a professional basis until they were forced on to it by competition. Before then those services were shaped by tradition, usage and customer-now changes in the big banks "internal structure" produced Business development division with planning and marketing department, advertisement and publications department, operational research groups and so on. As the results of the research began to flow in, decision on whether or not to develop new services had to be taken. A crucial factor here was of course, the cost of the services to the Bank and this included not only this cost of preparing, advertising and the administering the services, but also the cost at which the staff were prepared to implement it or indeed, whether they were prepared to implement it at all.

Saturday morning opening is the best example of this, the bank know perfectly well that most of there customers would be glad at a full banking service, say from 9:30 m. to noon and every Saturday mornings. On the other hand their staff unions are strongly opposed to the idea. This opposition could be over come, no doubt by a sufficiently good offer of extra money.

To summarize thus, marketing involves.

1. Research to find out what services are required.
2. A decision as the possibility of a producing a new service e.g. Saturday morning opening.
3. The staff aspect (by whom and how, will the service be administered).
4. The provision of any necessary training for the staff involve, and lastly,
5. The dissemination of information about the services to the public.

The methods employed by the banks are:-

1. a preliminary announcement to the press.
2. The printing of promotional booklets which can be displayed to the public in their branches
3. The circulation of relevant information for there branch managers
4. Advertisement.

### 3.3. DISADVANTAGES

A bank lends money to a pre-arranged limit principally by customer's draft, loan or personal loan.

## 1. Overdraft.

Is an informal way of getting loan from the bank, with the over draft, interest is calculated on a daily basis, consequently the customers pays for what he use. The overdraft is by the cheapest form of borrowing, but it can only be obtained if the bank manager is satisfied on a number of points.

Recently the overdraft has come under some criticism. It is not more liked by those in the bank and in the treasury who are charged with the duty of conducting the country's monetary policy for the fact is the once a bankers has agreed to an overdraft facility for a customer, he has no control over the use to which it is put. Within the agreed limit the level of borrowing can fluctuate guide wildly

A company or individual which has its money tied up in production, or household investment, and has no ease to meet his daily production or family needs, rather than go through the process of getting loan, could request the bank manager for an overdraft facility spending an the policy of the bank, it can grant overdraft facility to business with good records. In case of individual the bank manager can authorized an overdraft about ₦5, 000.00.

## 2. LOAN

A loan is more expensive than the overdraft. The amount agreed is made possible by transfer from a loan account in the customer's name, to his current account. The loan is supposed to be reduced at agreed interest, often once a month, by an installment from the current account. If the money is not forth coming the bank can not make the transfer and will probably write to the customer pointing this out. The customer then knows that he may find any cheque he has drawn dishonored if the account wold be out drawn

would they be paid. With loan methods, no paid in transferring an installment of loan deduction when the only result is to increase and overdraft.

The loan is easy to supervise from the bank point of view. It is much harder to see if an overdraft is being reduced methodologically. Loan interest will be charged quarterly or half-yearly on the amount of the loan outstanding and debited to the current account. The account, may well still have no interest some, most or all of the original amount of the loan interest, there may be what is called as a national rate (fix by the bank) earned by the money which is often to reduce a commission charge, or to extinguish its algorithm.

### **Types of loan**

Loan can be divided into several types, which include the following:

Personal loan;

Business starts loan;

Business development loan;

Form development loan etc.

1. Personal loan- the personal loan was intended as a cheaper form of hire purchase. The interest is added to amount borrowed and the total is then repaid by regular monthly payments over an agreed period, usually six months to three years or in some cases longer.
2. Business start loan- This is a type of formal loan which bank or banker offer to its customers either individual or group of individuals to enable them to initialized their business.
3. Business development loan- This type of loan is designed to meet the needs of smaller business for extended credit with planned and agreed repayments, which

include interest charges. It is available on the range 200-250, or for expenditure on property purchase or extension the purchase of plant, machinery or by way of additional working capital for a new or existing business, or any other approved project.

4. Form development loan- this type of loan is available to help practical farmers of such purposes as purchase of stock, machinery, plant and farm improvement.

### 3.4 Deposits

#### 1. Current Account

The normal banking account is the current account, running from day to day, a balance being shown at the end of any day which then has been a debit or credit entry. No interest normally allowed on a current account.

The bank is always seeking to attract new customers as it works to extend its business nevertheless, the holder of a current account must be carefully checked before he is issue with a cheque book. Two referenced are normally required, and the references must themselves consider of satisfactory status. Statement of the account are sent to the customers quarterly or half-yearly or more often if he wish. The account may remunerate the banker because a good average credit balance is kept but if it does not commission change may be debited to the account quarterly or half-yearly.

Therefore a current account is an account on which the owner can make a demand by issuing a cheque. The account can also be called chequing account. This means that the owner of the account can issue a cheque to another person on the money he has kept with the bank.

## 2. Deposit Account

It is perhaps a little confusing that, the term deposit is often used to describe the money which customers of all kinds have with the banks on current, deposit and other account, but if a current account is defined as an account which is opened so that cheque may be drawn to earn interest. Deposit account interest is paid at a rate determined by the bank base rate usually 1.5% to 3%.

No cheque is supposed to be collected for deposit account holders and no chequebook is issued. Consequently it is unnecessary to take up reference. Withdrawals are normally at seven days notice, but can be obtained on demand, although in such a case, seven days interest on the sum withdrawn will be foregone. Deposit book, which had to be produced for every transaction, is giving way to statements. Interest is credited to the current account, if there is one half yearly, otherwise it is added to the balance of the deposit account.

## 3. Saving Account

The saving account is similar to deposit account. This significant difference between them is that smaller sum of money are kept for unspecified period of time and therefore the interest rate is lower, small income earners hard to use saving account. Most bigger depositor prefer deposit account which pay a much higher amount for the use of their money.

Any one can open a saving account, unlike the requirement for a current account, all that is required for opening a saving account is two passport photographs and address of the prospective account holder.

#### 4. Safe custody

Articles of value, locked boxes with and many other things are kept by customers in the bank strong rooms for safety. Boxes should be locked and parcels sealed by the customers before handing them into bank.

The bank will issue a receipt if so required. He must be careful to hand them only against signature by his customer or a properly appointed agent who is known to the bank. Such a safe custody is a contract of bailment. If a banker makes a specific charge for the service he is a paid bailee. If he does not he is a gratuitous bailee. The paid bailee has to show a higher standard of care in dealing with the safe custody articles than does a gratuitous bailee.

#### 5. Safe deposit

Some banks maintain a safe deposit service where the customer is taken into strong room and himself puts his documents or articles of value into his box or compartment, to which he alone has the key, or takes them out. The bank keeps duplicate keys in case of emergency, but does not use them except in the presence of the customer or by his express authority.

#### 6. Financial Services

The bank may sell some of its computers to a customer who has no computer of his own, but really has a need for the use of one at a certain time. For example, it might be where a customer is a big employer of a labour force, which has to be paid once a week. The computer giving the necessary details will quickly produce a list showing what each man or woman should get after allowing the deductions for tax, holiday pay, insurance, short time working, and so on.



Other possible uses may be to analyse the result of an advertising campaign or to arrive at the best use of the farmland. Stock brokers, retailers and building societies find a use of computer services.

#### 7. Acceptance credit Facility

An acceptance credit facility is an agreement whereby a bank or accepting house agree to accept bills for a customer on a regular basis up to a certain limit, such bills, once accepted become prime bank bills and readily discountable. The customer pays a commission for the acceptance service.

#### 8. Business Advisory service

By arrangement the bank send an executive trained in the running of small business, particularly from a financial view point, to spend up to a week with the customer at his place of business. In that time the banker will study the accounting, and forecasting the cash flow, will analyze the budgeting, stock control and assessment of overhead costs. His recommendations, which are confidential, will suggest how the customer can save money, improve the efficiency of his business or use additional capital.

### 3.5 FOREIGN SERVICES

These are number of services, which the bank offer to all types of customers which are concerned with promoting foreign trade and travel. These are:

#### 1. Exchange Forward

This is the buying and selling of foreign currencies in advance by means of the forward exchange market. These allows customers to cover the risk of uncertainty, because of the fluctuations in rates of exchange, of payments to be made and receiving a

payment in two months in another currency for goods sold to a foreign buyer. It needs to be certain of the value of this foreign currency in terms of pounds to be able to calculate the profit.

If in two months time, it were to take the foreign currency to the bank to change into pounds and the pounds had risen in value, it would find the pounds received to be less than the amounts need even to cover the costs of production and so a loss would result. If however, the forward exchange contract had been entered into, a fixed rate of exchange would have been agreed, resulting in certainty of income. The same protection is afforded to a customer seeking to purchase foreign currency in the future.

## 2 Letter of credit

When a customer of a bank is going abroad for a period of time may ask his bank to arrange for a letter of credit so that he may always be sure of obtaining money abroad, without having to carry it with him. The bank will inquire the name of the foreign town where drawing facilities are required, and the total amount required over the period in question.

The bank will then debit the customer's account in advance and write to a corresponding bank or agent authorizing him to cash on demand any cheques or drafts drawn by the beneficiary, charging the sums to the debit of the issuing bank. A specimen of customer who must present it to the agent bank each time he wants any money, so that a note of the amount he has had may be written on the back.

When only one agent is used the letter of credit is some times called direct letter of credit. If the customer is travelling about it was not be possible to send individual letters to the entire agent he may wish to use.

A circular or world-wide letter of credit is then issued to the customer which will be available at the offices of any agent of issuing bank in any country in the world, and the customer is supplied also with a letter of identification having a specimen of his signature. He must use this letter which can be printed in several languages, to identify himself when he wishes to draw money.

### 3. Letter of introduction

A customer travelling abroad or emigrating may be recommended by letter of introduction from the customer's bank to agent's bank abroad. The issuing bank will explain the purpose and nature of the customer's visit and request the agent's bank to visit him when ever possible. This assistance may take the form of temporary finance, some times the agent bank can assist the customer to find employment. When the customer is an important person the agent bank may appoint an officer to meet him and introduce him to leading figures in the neighborhood.

### 4. Mail and cable transfer.

A customer wishing to make a payment to a person abroad may instruct his bank to transmit equivalent sterling from his account to a foreign bank which will notify the beneficiary, who can then go in and get the sum authorized, in the currency of a country. Normally this advise will be sent by mail, but in cases of urgency a cable of tele message will be sent. The customer pays commission plus mail or cable costs in addition to sum sent out. He can stipulate that all charges are for the account of the payee, in which case they will be deducted from the money paid out.

### 5. Passport services.

The bank will obtain or renew a passport of a customer wishing to travel abroad. This entails, getting the customer to complete and sign an application form, witnessing the customer signature, and certifying on one of the two passport photographs supplied that it is a true likeness of the customer in verifying the application and vouching for the applicant as a fit and proper person to receive a passport, the bank must speak from, personal knowledge of the customer.

The completed application forms, the photographs, and old passport, and if the application is the first one, are sent to the passport office, with the appropriate fee. The passport is obtained in due course and sent to the customer.

### 3.6 MONEY TRANSMISSION/TRANSFER.

This are kind of services operates by the bank in order to allow their customers to transfer their money from one place to another with safety. This system can take different forms.

### 3.7 Cost benefit analysis

The use of the designed program using MS-Excel built in formula will assist in reducing the labour and time involved in the computation of interest charged on loans received.

Similarly, the labour and cost in designing a program using a computer language such as Pascal, Fortran or Dbase is reduced.

### Collection of cheques.

This is one of the three basic services and needs little description. The customer receives cheques from his debtors on which his name appears as payee. He pays these into the bank either over the counter or through post, making out the credit slip. A duplicate (or tear-off) credit slip is returned to him as a receipt. The cheques are then presented through the dealing house to the payee banker in the manner already described. The amount of the cheques are credited to the customer account on the same day he pays them in, but he should not draw against them before they are cleared unless he has an arrangement with the bank, whether express or implied that he may do so.

### . Direct debiting.

A customer making periodical payments to building society may send a cheque through the post each time make a personal payment at the local office each time, or give his bank a standing order. A logical development has been to allow the creditor to make a direct claim on the customer account, to be paid by the bank on each occasion. This saves time and money, and is very suitable for large creditors such as finance house, insurance company, and building societies.

The customer will have to approve this arrangement before any transfers are made, and he must authorize his bank to meet the claims, for the banker not pay away his customer's money without his authority. Normally this authority takes the form of a properly completed cheque, but in this case a single signed form (provided by the creditor) will suffice to authorize the regular payment until further notice.

### 3. Emergency payments (Telephone transfer)

Circumstances may arise whereby a customer urgently wishes a sum of money to be paid out in a distant town as soon as possible. An example might be where a weekly salaries and wages cheque sent out from a head office in London by post has failed to reach a factory in the provinces, so that they can not take it to their local branch.

In such a case the payment would be authorized by telephone from the company's London bank. Bank has a code system where by they can identify calls between branches as a genuine.

### 4 Standing orders

Customers having regular payment to make, such as mortgage installments, club subscriptions, may give details to the bank and authority it to make the payments on their behalf, as and when they fall due.

The customer must see that, on the that date there is enough money on the account to meet the transfer, and if the customer is persistently careless in this respect the bank will be justified in notifying him that it has concealed his standing order and that in future he should make his own arrangements to deal with the matter.

## CHAPTER FOUR

### 4.0 Software development and implementation

#### 4.1 GENERAL INTRODUCTION TO COMPUTER.

If one looks at the most prominent reaction to computers in our society from the "do not fold, staple, or mutilate" protest signs to the excitement generated by computerized space capsules the 4 most appropriate title for a discussion of the social implications of computer technology might appear to be computers: Curse or blessing?

The computer has excited the public imagination and has generated both great fears and great hopes. It has become a symbol for all that is good and all that is evil in modern society.

Why does the computer evoke such reaction? Part of the answer lies in the area of all-pervasiveness, which surrounds it. Computers are machines, which can store, analyze, manipulate, and present data in a variety of ways; it has applications in almost all spheres of human activity. Its efficiency in helping man to cope with the "information explosion" and impose some order on complexity makes it a highly attractive device for a large number of organization business firms, school, government agencies, hospital, research Laboratories and law firm all find uses for computers.

The individual, in turn, find his checks, his income tax returns, his applications for jobs or credit cards, his magazine subscription and his political opinions. Processed by computer. He also have vague awareness that in the future his children or pthalps grand-children's, will be educated by a computers, and that his information needs will be service by computers, and that his financial transaction will be taken of by an electronic cash credit system. With all this as background, he may fear that the essential of his

personal life will be stored in the memory bank of some computers, and be use for purpose beyond his control. Or, if he is of an optimistic bend, he may view computers as machines, which will decision-makers to program the ultimate in social wisdom and justices.

Because of its ability to calculate, to process information and to simulate various conditions, computer has become a powerful aid to man's analytic and reasoning capacities. In the sciences, and the humanities disciplines, the computer is not only an important labor-but it also allows researchers to engage on some investigation that would not have been feasible by human labor done. Moreover, it often produces results that are unexpected and lead to new discoveries, that is, it has creative sanction as well.

While some have claimed that the use of computers often debases research in the social sciences and the humanities by generating an exaggerated emphasis on the quantifiable, it is difficult to determine how much the fault lies with computers, and how much it results from the desire of those dispelling to emulate the physical sciences.

The most important policy issue regarding the use of computer in the next decade will involved the creation of a "National computer public utility system." It may seem strange to think of the computer in terms of a public utility, since ostensibly a computer is a machine that a customer buys or rents for his own use. But the recent emergency (only in the last year or two) of the possibility of "time sharing " whereby thousand of individual terminals located in homes, or offices, can be hooked into giant central computer through the use of telephone lines and used for information- gathering, ordering and billing services, e.t.c.



All that one can hope for, therefore, is some greater understanding of the issue. It is clear that computers are powerful tools whose effects are quite profound. But like all tools, they are not autonomous. Their development and consequences are shaped by the social structures in which they operate. Therefore, computer is a very fast and accurate machine with the ability to handle input/output, calculation, logic comparison, and storage/retrieval operations.

#### 4.2 THE COMPUTER IMPACT

The impact of computer can not be appreciated without some understanding of the society into which they are introduced. The development and application of computer technology would not have been likely if ours were not society that is knowledge-oriented, concerned with innovations and planning, and informed by scientific methods. At the same time, the use of computers generates new opportunities and new problems to which the social structures most respond. Since the changes set in motion by computers are very current, it is, in many cases, too early to discern their directions.

To appreciate the impact of computers in the society requires some understanding of the kinds of operations that these machines performed. The selection by THOMAS H. CROWLEY discusses the uses of the computer in providing economic benefits and making possible certain types of data analysis. Some tasks that are now routinely performed would not have been feasible without the aid of computer. The launching of satellites and the control of production lines, for example, are available while the process is being carried on. In other cases, the computer may serve as an aid to judgement and decision making by allowing the analyst to test the probable effects of certain course of action. Thus an economics might program the computer with a model of economy and test the

effects of a tax. A businessman might use a computer to simulate what would happen if he were to raise his prices. Computer simulations also provide scientists and social scientist with insights into the nature of the processes that they study.

The introduction of computers in the factories appears to eliminate many of the routine and low-level jobs. But whether the average skill level of the blue-collar worker is raised because the machines also take over some of the work that had been done by skilled workers is a matter of some dispute. In some instance, for example, when an operator require less skill because of the introduction of computer or automata machinery, he may be made responsible for a large portion of the productions sequence, and this assignment may require knowledge of additional machines. The consensus appears to be that automation raises the average skill level in some aspects and is in others, so that there is no substantial net change.

In case of office workers, is that the introduction of computer results in upgrading of skill, bottom level clerical jobs are eliminated and a new level of office worker develops around the computer technicians, programmers, systems analysts.

An excellent illustration of this type of application of computers is in the forecasting of weather. Because of its direct and obvious importance to man, predicting the weather (or formulating rules which attempt to minimize its adverse effects on such activities as crop planting) was probably one of the first technological questions to be attacked. Before the turn of the century, a mathematical model of the atmosphere including the equation which described how the relevant variables such as air pressure,, temperature, humidity, and velocity change over a period of time was formulated.

At least as long ago as 1911, it was pointed out that the weather could be predicted by solving these equations. If the pressure, temperature, humidity, and velocity of the air are known for the same instant of time at many points around the world, the solution of the equations is mathematically quite straight forward and accurately predicts what these quantities will be one hour, one day, or one network of weather stations around the world can make the measurement necessary to provide the initial conditions for these calculations, but it happens that a tremendous number of numeric calculation are required. Without computer these computations required many work, and these was obviously no point of predicting the weather, if the weather was already over! Consequently, this proposal lay essentially dormant until the advent of high-speed computer.

The impacts of a new technology are generally felt first in the economic realm, the impact of the computer is not exception. The large-scale social ramifications of the computers result from its effects on the labor-force, the process of production, and the way in which men transact business and receive service. Computer are not only changing the nature of the work that men do, they are also attiring the nature of some economic enterprises. The banking business, for example, has been changed since wide-scale introduction of computers, so that such new function as the handling of billing for physicians and dentists are becoming part of the bank's business.

Some of areas affected today by the computerization can be illustrated and fully explain as shown below.

1. The impact of computers on people:

The technological advances just presented have made the computer one of the most powerful forces in society today, these made it possible for computer usage to spread into homes and organization of all sizes. No one can doubt that the use of computers has had a strong impact on many people. But the computer is the driving force behind an information, and as in any revolution some innocent people may be harmed. Let us briefly outline here some of the positive and negative effects that computer usage may have on individuals.

**Positive implication:** People may benefit from computers in many ways. Among the benefits are the following:

1. New job opportunities.

Hundreds of thousands of new jobs have been created in such areas as programming, computer separations, and information system management. Current demand for person qualified for these jobs, exceed the current supply.

2. Greater job opportunities.

Scientist and engineers can tackle interesting problems that they could not have considered without computer help. And lawyers, teachers, clerical workers, and other can turn over repetitive and boring tasks to computers processing and then concentrate on the more challenging aspects of their work.

3. Use by businesses.

The use of computers by businesses to avoid waste and improve efficiency may result in lower product prices and or better service to individuals. In addition, the computer-controlled robots along with other automated tools, can precisely carry out the

deadly, dirty, and dangerous tasks that cause workers discontent. The net result of using these machines may be to improve the quality of the products assembled and sold to customers. Finally, computer controlled aircraft braking systems improve passengers safety, and to aid the sightless, computer controlled reading machines are available that will read printed material and produce the corresponding speech sounds.

4. Use by public organization

Avoiding waste and improve efficiency in government agencies, school districts, and hospital units can also result in better service and a reduced tax burden for citizens. Without computers, for example, the social security administration could not keep up with the payment of benefits to widows, and retired persons. The quality of education can be improved by the use of games, simulations, and computer assisted instruction techniques. And better personal health may result from a hospital's use of computer to provide better control of laboratory tests.

5. Use in the home.

Millions of microcomputers have been acquired for home use such personal systems are used for entertainment and hobby purposes, for educational uses, for family financial applications, and for countless other tasks. Only human ingenuity and imagination limit the benefits of personal computing.

#### NEGATIVE IMPLICATIONS.

In spite of the countless benefits that people receive from computer usage, such usage can also lead to potential danger and problems. Some of these problems are:

1. The Threat of Unemployment.

The greater efficiency made possible by computer usage can result in job obsolescence and displacement for some workers. For example, the computer controlled robots pictures earlier can sense the need for a specified task, and can then take the actions necessary to perform the task. In the auto manufacturing and supply industries done, it's expected that tens of thousands of jobs will be eliminated by robots during the 1980's.

2. The use of questionable data processing practices

Input data about individuals are routinely captured many organisation and entered into computer processed files. In some cases, those facts have been compiled by those who have no valid reason to gather them. In other cases, inaccurate and incomplete data about people have been placed in computer system files. Finally, human errors in preparing input data and in designing and preparing programs have resulted in system miscalculates that have harmed people.

3. The trend toward depersonalization.

In most computer-based systems, the record key used to identify a person is a number-example, a social security, student, employee, or credit customer number. As people have come into contact with more computer system they have been identified by more numerical codes. Although many understand that being treated as a number results in efficient computer processing, they would proffer that system be design so that they are treated as persons rather than numbers.

#### 4. The system security issue.

Lack of control over data security in a computer system has resulted in the destruction of an individual's records in some cases. The lack of control has also led to the accidental or intentional disclosure persons to authorized persons of confidential information of a very personal nature. Clever individuals have had no difficulty in the past breaking through the security provisions of on line computer systems in order to gain direct access to this confidential information. For example, a gang of Milwaukee teenagers was able to gain access into over 50 systems, including one at the Los Alamos Scientific Laboratory.

#### 5. The privacy Issue.

Lack of control over data storage, retrieval, and communication has led to abuse of a person's legitimate right to privacy i.e. the right to keep private (or have kept on a confidential basis) these facts, beliefs and feelings which one does not wish to publicly reveal. In at least one state, the records of patients hospitalized for psychiatric treatment were sent to department of mental health and were then made available to insurance companies, police department, the motor vehicle department and all other licensing agencies.

### THE IMPACT OF COMPUTER ON ORGANISATION.

After noting that "The world is too much with us, late and soon," William Wordsworth took a stool along a sandy beach to calm his biliter. What he could not know was that tiny silicon chips made from the sand he was walking on could cause feverish activity 200 years later. These chips have dropped into our midst like small stones into a lake, but they are causing waves rather than ripples! And the waves caused by computers

are having both positive and negative effects on the organizations that use them. A few of these effects are outlined below:

#### Positive implications

We've seen that organizations may benefit from computers. Those benefits include the following:-

1. Better planning and decision making

Planning is deciding in advance on a future course of action. Computer-based information systems that are quicker-responding and broader in scope than those previously available can have a positive impact on the planning and decision making that occurs in a business or non profit organization. Planning can be improved with the help of information system that quickly notify managers of problems and opportunities. These same systems can then be used by managers to evaluate many alternative solutions and to then implement the final choice. Many of these systems cross national boundaries to link together the units of multinational organizations.

2. Better control of resources.

Control is a follow-up to planning. It's the check on performance to see if planned goals are being achieved. Computer system can be used to measure actual performance, levels, compare those levels against planned standards, and then carry out preprogrammed decisions. For example, in an inventory control application the programme can determine the current inventory level of a basic item, computer message when the quantity drops below the desired level.



### 3. Greater efficiency of operations.

You are seen how greater efficiency may benefit individuals. But greater efficiency resulting from computer usage also benefits organizations. In addition to realizing operating efficiencies through their use of computerized reservation system, American and united airlines have also gained a larger share of the market by permitting travel agents to tap into their systems. Banks and other financial institutions have improved their operating efficiency by using computers for the electronic transfer of money on a national and international scale. And super markets and other retailing outlets use automated checkout stations to improve efficiency. These stations read the special codes and symbols attached to products and then transmitted the coded data to a computer. The computer looks up prices, possibly updates inventory and sales records, and then forwards prices and description information back to the stations. Computer systems are also used to save energy and improve the efficiency of heating and cooling of offices, factories, hospitals, and schools. Without a strong commitment to improve efficiency through computer usage many business will be unable in the future to successfully compete with foreign firms in national and world markets.

## NEGATIVE IMPLICATIONS.

The following brief listing identifies some of the challenges that computer-using organization may face:

### 1. the problems in information system design

The design of new computer based-information systems can be a very complex and challenging task. In some cases, past designs have produced disappointing internal results and a bad public image for the sponsoring organizations.

The system security issue.

The failure to secure the information system being used has threatened organizations as well as individuals. Assets have been stolen from organizations through system manipulation. Secrets have been copied and sold to competitors. And system penetrators have repeatedly broken through the existing security control of large direct access systems to gain access to sensitive information there's the fear that when these units are linked with larger systems the security and accuracy of the organization's valuable data base will be placed in further jeopardy.

### 2. The challenge to organizational structure.

When a new computer system are introduced, work group in an organisation may be created, disbanded, or realigned. Existing departments may be added to or eliminated. Such changes can lead to employee resistance and organizational stress.

### 3. The access of information issue.

Organization with limited computing resources may have more difficulty competing against organizations with much greater sophistication in the issue of computers. For example, competitors believe that by offering their reservations systems

to travel agents, American and united have an unfair advantage because the availability of the two airlines flight is displaced most prominently on the agents terminals. Industry regulators are now looking into this issue.

#### 4.3 COMPUTER APPLICATION IN BANKING SYSTEM.

Next to the government, the commercial banking system is the largest processor of paper. In 1964, for example, the system handled 15 billion checks in addition to its other financial transactions. In the last six (6) years, cheques handling has been largely automated, with over 90% of the cheques in circulation today MICR-CODED (MICR stands for magnetic ink character recognition) and is the scheme adopted by the banking industry for printing information on cheques that can be read by character recognition machines.

Almost all-large banks have their own computers for cheques handling and many other applications. Many banks have mechanized or are planing to do so through the utilization of computing service offered by a correspondent bank, or by the bureau, computer cooperative formed with other banks, or by installation of sophisticated electronic book keeping machines. However as an indication of the conservation of some bankers, 45% of the banks (mostly small banks) replied to a 1962 questionnaire of the American Bankers Association that they had no intention of using computers in the foreseeable future.

Despite the introduction of computers, banks employment has continue to grow, thanks to the rapid growth of the industry as a whole. However the rate of growth of the employment has slowed down, and despite the overall growth, the book keeping function has been greatly affected by the introduction of computers. Some banks have reported

reductions in their book keeping staffs of as much as 80%. For multi branch banks, The book keeping functions has almost disappeared of the branch level. Despite this, however the number women employees as percentages of the total employment in banking dropped less than one percent from 1960 to 1964.

Banks particularly the large ones, will expand their services to include payroll, professional billing, account reconciliation, account rectifiable, inventory control, stock and bank portfolio analysis, bill collection, asset management, analysis of retail market penetrations, economic forecasting etc all essentially dependent on the use of the computer. These new services not only effect the banking industry, they change the ways of handling business data and financial transaction in many other industries. Automation effects not the mere mechanics of banking, but the very functions of banking, not the individual bank, but banking systems and the national and international economies in which they are imbedded.

Computer has forced the banking industries to examine itself to an unprecedented extend. Technological advances in computers and communications underscore the fact that banking is a system of national scope in fact, worldwide scope.

The banking industry has observed that much of its activity could be eliminated, and there is a movement a fact to reduce drastically the paper work in financial transaction ultimately to do away with the cheque altogether. Other than cash, the simplest system would involve telling the financial computer utility via a store terminal to transfer the amount of the sale from the buyers to stores account. If the purchaser's balance wouldn't cover the cost, the financial utility could extend him credit if his credit rating was good.

Many other less esoteric possibilities are ready in use. For regular payments of a fixed amount, like mortgage insurance premiums or utility bills up to a giving amount, the bill can be sent directly to the person's bank for payment. Other scheme involves using slightly argumented home telephone to instruct a bank to transfer funds to another account. (Such a system was demonstrated at the 1965 meeting of the American Bankers Associations).

If business of all sizes have simple terminals linked to a control computer utility over a communications network, a universal credit card system is possible. Various scheme could be used to make it difficult for someone else to use your "card" e.g. "combination" key number known to you, or ultimately recognition by voice or thumb print. Except for recognition by voice or print, all of the above is technologically feasible today.

Such a financial utility could develop a complete credit deposit-loan history from each customer. This history could also enable the financial utility to be a more effective financial adviser to the customer, pointing out spending habits, making analysis, and helping with better financial analyses, and helping with better financial planning. Tax returns could also be turned out systematically.

In the system describe above, money could be transfer from account to account or the transaction could involve the extension of credit. The seller, base on an indication, could give the credit from the financial utility that the buyer was a good credit risk, or the credit could be extended by the utility. The letter scheme would probably mean less expensive credit for the buyer, since must of the cost of credit today goes toward the

administrative costs of record keeping. Centralized in the financial computer utility, the costs of such record keeping would be lower.

#### 4.4 COMPUTER BANKING PRODUCTS

These are limited to automated teller machine, electronic fund transfer (EFT), magnetic ink character recognition (MKR), and automated cheque sorters (ACS) and image machine.

##### 1. MAGNETIC INK CHARACTER RECOGNITION.

These systems provide encoding of cheques and document with character in magnetic ink. So that they can be electronically read and processed for computer application. It is an American Bankers Association program, which was accepted because of its wide usage in U.S.A., U.K.; Europe and Asia.

##### 2. ELECTRONIC FUNDS TRANSFER.

This involves the movement of funds from one account to another without requiring a corresponding piece of paper to prove how the transfer occurred. The services of electronic funds transfer was introduced in banking industry by universal trust bank of Nigeria (U.T.B) and it allowed customers to credit their account electronically within 24 hours in the country.

##### 3. IMAGE MACHINE.

This photographic and signature verification system that permit the bank to automatically stored customers and photographs of account holders.

#### 4. AUTOMATED CHEQUE SORTERS.

This is to sort out MICR cheque. Each MICR has a code number at the bottom, this code are capture by automated cheque sorters with speed capable of despairing the codes.

#### 4.5 PROGRAMMING

The following function calculates the payment for a loan based on constant payments and constant interest rate. Using MS Excel.

Syntax: PMT(rate, nper, pv, fv, type)

Rate: Is the interest rate of the loan.

Nper: is the number of payments of the loan.

Pv: Is the present value, or the total amount that the series of future payments is worth now, also known as the principal.

Fv: Is the future value, or cash balance you want to attain after the last payment is made. If fv is omitted, it is assumed to be 0 (zero), that is the future value is zero.

Type: Is the number 0 (zero) or 1 and indicates when payments are due

Set type equal to                      if payments are due

0 or omitted                              at the end of the periods

1    at the beginning of the period

Note: The payment return by PMT includes principal and interest but no taxes.

Also to find the total amount paid over the duration of the loan, multiply the return PMT value by Nper, as illustrates in the following table.

	PRINCIPAL	RATE	NPER	PMT	PMT*NPER
566	12000	5%	5	(2430.08)	(12150.42)
3443	43576	3%	6	(7368.95)	(44213.69)
5667	16500	2%	4	(4168.06)	(16672.23)
4567	34557	4%	8	(4401.01)	(35208.09)
4677	18754	6%	10	(1918.65)	(19186.46)
3788	17659	2%	9	(2003.22)	(18028.94)
7865	24557	3%	8	(3127.46)	(25019.68)
9989	28475	5%	5	(5766.38)	(28831.92)
3478	36748	4%	3	(12351.55)	(37054.66)
4778	45487	2%	3	(15288.86)	(45866.58)
4467	74762	3%	2	(37614.79)	(75229.59)
8537	42362	4%	7	(6153.00)	(43070.97)
4675	74837	5%	6	(12655.36)	(75932.15)
5353	63276	4%	2	(31836.33)	(63673.76)
2434	56874	2%	5	(11517.38)	(57586.90)
3456	56332	3%	6	(9526.06)	(57156.35)
2127	78532	4%	9	(8908.57)	(80177.15)
5892	53245	5%	8	(6781.02)	(54248.19)
6539	73261	1%	7	(10641.01)	(74487.09)

edure:

Principal=12000

=5%

=5

(5%/12, 5, 12,000, 0) returns 2,430,08

can use PMT to determine payments to annuities other than loans.

example: If you want to save 50,000 in 18 years by saving a constant amount each month,

can use PMT to determine how much you must save, if you assume you will be able to earn,

in your savings, you can use PMT to determine how much to save each month.



ated in the following table e

	PRINCIPAL	RATE	YEARS	PMT
126	50000	6%	18	(129.08)
157	50000	5%	20	(108.22)
4534	50000	4%	12	(237.93)
7747	45000	3%	16	(140.15)
4536	34000	7%	17	(96.25)
3640	38322	5%	13	(162.76)
8324	73870	4%	8	(601.41)
2123	34543	6%	7	(331.91)
3123	43221	9%	11	(231.97)
1123	32177	4%	12	(153.11)
2344	73212	2%	15	(251.74)
7743	23434	3%	16	(72.98)
3232	94327	2%	18	(243.52)
9831	62347	6%	14	(237.69)
1234	64348	5%	11	(345.36)

ture:  $PMT(6\%/12, 18*12, 0, 50000)$  returns 129,08

pay 129.08 into a 6% saving account every month for 18 years you will have 50000

## CHAPTER FIVE:

### CONCLUSION

#### 5.1 INTRODUCTION

The aim of the chapter is to present and analyses the data collected from the questionnaires distributed to the staff of the international Trust Bank.

Questions were designed such that their responses could provide enough information to answer the research questions and test the validity of the hypothesis. Most of the questions asked were on how computation can effect the activities of the bank, for example security, management, and customer's response e.t.c.

The responses from the questions helped to answer the research questions as well. Finally, the chapter attempts to test the validity of the hypothesis. The two tailed test students T-test was used to test the validity of the hypothesis at 5% level of significance, implying that if the hypothesis is accepted at this level of certainty, it means that the probability that the result is caused by chance is less than 5% or if the expectation is repeated several times, the same result will be obtained 95 times out of 100.

#### 5.2 DATA PRESENTATION.

Following below is a tabular presentation of data collected from the members of staffs of international Trust Bank regarding Services such as security, management, and efficiency of bank operations in the presence of computer technology.

Table I: Opinion on the implication of computerization in the banking system.

OPINION	FREQUENCY	PERCENTAGE
POSITIVE IMPACT	6	$6/8 \times 100 = 75\%$
NEGATIVE IMPACT	2	$2/8 \times 100 = 25\%$
	$\Sigma 8$	

Table 2: Opinion on, can computer help to improve management in the banking system.

Opinion	Frequency	Percentage
Yes	8	$8/8 \times 100 = 100$
No	0	$0/8 \times 100 = 0$
	$\Sigma 8$	

Table 3: Opinion on: for security is it possible to have customers and staffs information of the bank be stored in a computer.

Opinion	Frequency	Percentage
Yes	5	$5/8 \times 100 = 62.5\%$
No	3	$3/8 \times 100 = 37.5\%$
	$\Sigma 8$	

Table 4: Opinion on how does emergence of computer in your bank effects efficiency in terms of routine activities?

Opinion	Frequency	Percentage
Efficiency has improved	6	$6/8 \times 100 = 75\%$
Sign of improvement in efficiency	2	$2/8 \times 100 = 25\%$
	$\Sigma 8$	

Table 5: Opinion on: Does the accuracy of work in area of banking activities and customer satisfaction been affected as a result of introduction of computer in the banking system?

Opinion	Frequency	Percentage
Yes	8	$8/8 \times 100 = 100$
No	0	$0/8 \times 100 = 0$
	$\Sigma 8$	

Table 6: Opinion on is there any profit growth rate compared to the time before the introduction of computer?

Opinion	Frequency	Percentage
Yes	8	$8/8 \times 100 = 100$
No	0	$0/8 \times 100 = 0$
	$\Sigma 8$	

Table 7: Opinion on the frequency of error made in day to day activities, does the used of computer reduces it or not?

Opinion	Frequency	Frequency
Yes	8	$8/8 \times 100 = 100$
No	0	$0/8 \times 100 = 0$
	$\Sigma 8$	

Table 8: Opinion on: has the use of computer attended more customers?

Opinion	Frequency	Percentage
Yes	8	$8/8 \times 100 = 100$
No	0	$0/8 \times 100 = 0$
	$\Sigma 8$	

### 5.3 DATA ANALYSIS

Data analysis is aimed at generating such information about objects and their attributes so that they can be used as a basis for rational decision making. The hypothesis will be tested statistically using T-test.

#### HYPOTHESIS TESTING

1. Calculate the T-value.
  2. Calculate the degree of Freedom.
  3. Determine the confidences or significance level for the test.
  4. Look up the T-distribution table.
- A. The null-hypothesis is rejected if  $T\text{-calculated} > T\text{-table}$
- B. The null hypothesis is accepted if  $T\text{-calculated} < T\text{-table}$ .

Test of Null hypothesis Computer technology has made a negative impact on the operations of the banking industries.

From table 1

Opinion	Frequency	Rate (x)	Fx	(x- $\bar{x}$ )	(x- $\bar{x}$ ) <sup>2</sup>	F(x- $\bar{x}$ ) <sup>2</sup>
Positive	6	2	12	0.25	0.0625	0.375
Negative	2	1	2	-0.75	0.5625	1.125
	$\Sigma$ 8	$\Sigma$ 3	$\Sigma$ 14	$\Sigma$ 0.05	$\Sigma$ 0.6225	$\Sigma$ 1.5

$$\Sigma f=8$$

$$\Sigma fx=14$$

$$\bar{x} = \frac{\Sigma fx}{\Sigma f} = \frac{14}{8} = 1.750$$

This is a two-tailed test at 5% level of significance of (n-1) i.e. 7 degree of freedom.

The critical region is  $\pm 2.365$  (i.e. T-table) and T-2.385.

$$\sigma = \frac{\Sigma f(x-\bar{x})^2}{N-1} = \frac{1.5}{7} = 0.2143$$

Calculate for T-value:

$$T = \frac{\bar{x} - \mu}{\sigma/\sqrt{n}} = \frac{1.750 - 0}{0.2143/\sqrt{8}} = \frac{1.750}{0.076} = 23.01$$

This value is greater than 2.365, hence, we reject the null hypothesis and accept the alternative hypothesis which states that, computer technology has made a positive on the operation of bank.

## 5.4 SUMMARY

The main aim of undertaking this research was to find out the role of computers in banking system or the impact of automation in banking sector. The whole work was divided in to five chapters. It is likely some people wants know whether computers have impact in banking system.

Also to design a program using MS-Excel which could assist to determine payment of loan, based on constant payment and constant interest rate.

The first chapter (i.e chapter one) which is the introduction, highlighted the general description of the subject area, problems, analysis research question, objective of the research work, significance of the research project.

In the second chapter, which is literature review of the banking operation, we have seen various banking services and money (funds) transfers. Also a review on history of banking in Nigeria with special emphasis on the area of studies.

The third chapter I talk about banking operation, i.e deposit, foreign services, money transfer e.t.c.

In chapter four which is the methodology. We have talk about the impact of computer and the application of computer in banking services. Also the output from my program is presented here.

Finally chapter five is summary and conclusion. In this chapter the data collected from the questionnaire submitted to the staffs of FFB Sokoto is analysed and presented in tabular form.

## 5.5 CONCLUSION AND RECOMMENDATION.

All that one can hope for, therefore is some greater understanding of the issue. It is clear that computers are powerful tools whose effect is quite profound. But like all tools, they are not autonomous. Their development and consequences are shaped by social structure in which they operate.

From the data being collected through the response to my questionnaires by the staffs of the International Trust Bank p.l.c, it was shown or appeared that computers in the banking system have brought a positive impact in the banking services. Computers also have helped in improving management in the banking system. Response by the International Trust Bank staffs' shows that, for security purposes it is possible to have the customers and staffs information of the bank be stored in the computer.

Another response to my questionnaire shows that staffs of International Trust Bank used to encounter some problems of using computers in their banking. The problem described by the staffs includes the problem of hardware and software, responding to question number six of my questionnaire by the staffs of International Trust Bank p.l.c, it appears that, computers have improved the accuracy of work in areas of banking activities and customers' satisfactions. International Trust Bank p.l.c, Sokoto shows that the profit growth rate of their banking activities before the introduction of computers can not be compared with the profit growth rate after the introduction of computers. Another response shows that, by the introduction of computers in the banking industry has reduced the frequency of errors made in day to day activities of the banking system.



Some observations therefore, are: is there any implication of computerization in the bank? Can developing countries like Nigeria handle the economic burdens of computerization in the banking system? And so many question. These questions are answered by this research project. The research has made it categorically clear that the significance of computer in banking system is to bring greater efficiency, effectiveness and greater utilization of banking system which are designed to provide services for the establishment.

The research brought more knowledge on how banking services are found to be very useful in processing of customers and staffs information, and in the funds transfer, computer bring the most secured, simplest and the effective and efficient way of funds transfer within short or long distance. Computer brought the accuracy of work in area of banking activities and customers satisfaction. Also today with computers in our banks bring about the emergency of bank efficiency in terms of routine activities. But then as the application of computer system in the activities of bank increase more tremendously, we must not therefore, refuse to mention some of notable contributors who have air put their view about the new revolution in banking industry.

All categories of drive by survival instincts in continuous struggle to stay a float in the highly competitive sector have come out with one innovation or other in terms of products of mode of services to customers. Computer in banking has taken the first place in term of mode of service with its characteristic enhance speed, convenience and efficiency to both customer and bank officials. By E. A. O. Shonikan.

ATM Customers now enjoy the 24 hours of service in which case weekend bank be unnecessary as soon as ATM (automated teller machine is able to accept deposit and give account balance). By Ade Ojo T.

"You can observe the improvement here said by our customer", in this system your account is updated within the shortest possible time which is not comparable with 80's, this is the work of computers, Adirerse (1997).

Therefore, with the advent at computer in banking system, it do away with the traditional banking services hall in the process of either depositing cash or cashing their cheque or other financial transaction. Computers have improved accuracy efficiency and effectiveness in banking operations.

Conclusively, the topic basically emphasized on the current development being achieved by using computer in our banking sector. by considering the last 20 years where computer were not use in the banking industry, during that time there is a lot of problem like ineffectiveness, problem of transportation, but now everything has been taken care up due to the development of computer.

Lastly, the researcher recommended that computer should be used in our banking system, not only the bank but also to all our day to day activities because of it's efficiency, accuracy and effectiveness in our work.

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