

**COMPUTERIZATION OF PERSONNEL MANAGEMENT
INFORMATION SYSTEM:**

**A CASE STUDY OF MINNA LOCAL GOVERNMENT
COUNCIL.**

BY

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FULFILLMENT OF THE REQUIREMENT FOR THE
AWARD OF POST-GRADUATE DIPLOMA IN
COMPUTER SCIENCE.**

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CERTIFICATION

This is to certify that this project carried out by MALLAM ALIYU BELLO MOHAMMED meet the requirement for the award of a Post-Graduate Diploma in Computer Science of Federal University of Technology, Minna.

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DEDICATION

This project is dedicated to my elder sister Hajiya Rakiya Adamu Ma'aji, whose love, care and inspiration contributed in no small measure to the success of my effort which I cannot repay.

ACKNOWLEDGEMENT

I need first to put on record the moral and relentless academic assistance offered to me by my able supervisor Mr. L.N. EZEAKO. His guidance and kind co-operation greatly led to the success of this project.

I wish to thank the staff of Minna Local Government Council, Personnel Department for their support and assistance. Their forbearance and co-operation during the period of research despite their tight schedule are fully appreciated.

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ABSTRACT

It has been statistically established that recent developments in computer technology-especially in its application to the solution of human problems-has significantly facilitated personnel' management functions in many organisations.

Personnel officers in Minna Local Government Council have had very limited exposure to computers and do computerisation of personnel functions.

In this project, dBase iv - a classic database management system for micro computers, that allows interaction with data through multiple selections, was used to set up a personnel management information system.

This system provides management with direct information and ensured proper record of the profile and functions of all staff of the Minna Local Government Council.

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CHAPTER ONE

1.1 INTRODUCTION

A Computer can be define as a machine which accept data from an input device, perform arithmetic and logical operations in accordance with a pre-defined program and finally transfer the processed data to an output device either for further processing or in final printed form. it has a further capability of storing data as may be required. Before computer processing can commence, it is necessary to have an input device for the purpose of transferring data into the computer's internal memory. A computer is automatic in operation in the sense that when the program and data for processing have been inputed into it, the required output is produced without manual intervention as all the program instructions are executed automatically.

In view of its enormous capability, the computer as a machine has found itself in all field of human endeavour especially as related to it application to human problem and human resources management.

In the past, those responsible for the development of a corporate data processing strategy tend to ignore or failed to appreciate the need for a

computer based personnel management information system. Personnel management was also slow to appreciate the benefit which such a system could yield over and about manual system of record keeping.

However, the renewed effort to develop a computer based personnel management information system became evident in the later half of 1970's. The system was intended to enable personnel management to manage more efficiently and effectively and to provide a more positive services to all organization.

The appreciation of the need for a computer based personnel management information system in Minna Local Government has come about because of the following factors;

- i. The inadequacy of the existing manual system of file organization and processing.**
- ii. The emphasis on increased productivity from the existing work forces.**
- iii. The current rationalization (re-structure) of the Federal, state and Local Government with a view of not only identifying redundancies but also cutting down on the staff strength so as to reduce to the bearest minimum Government expenditure on staff monthly salary (wage) which has over stretched most Local government mega**

allocation from the Federal account.

- iv. The menace of ghost workers which had characterised previous government.**

The above mentioned phenomenon has further highlighted the need for Minna Local Government to:-

- a. Have more and update information about the organisation most important resources.**
- b. Monitor the current manpower resources.**
- c. Assist in manpower planning and development.**

Despite, the appreciation of the need for computer based personnel management information system in Minna Local Government Council it has not been easy for the personnel department to appreciate fully what a computer can do for it or how it should go about it.

In order to achieve a good computer based management information system there has to be a greater understanding of the personnel management Department and its function by the management services and then together they can harness the technology effectively.

1.2 ABOUT MINNA LOCAL GOVERNMENT

Minna Local Government Council is a new Local Government created along with some others all over the Federation in July 1989; Though formerly known as Minna Municipal Council, with all the administrative and functional requirement of a full fledged Local Government, it did not enjoy the Federal Government recognition until July, 1989. As of 1998 the Local Government Council have a staff strength of 1,010.

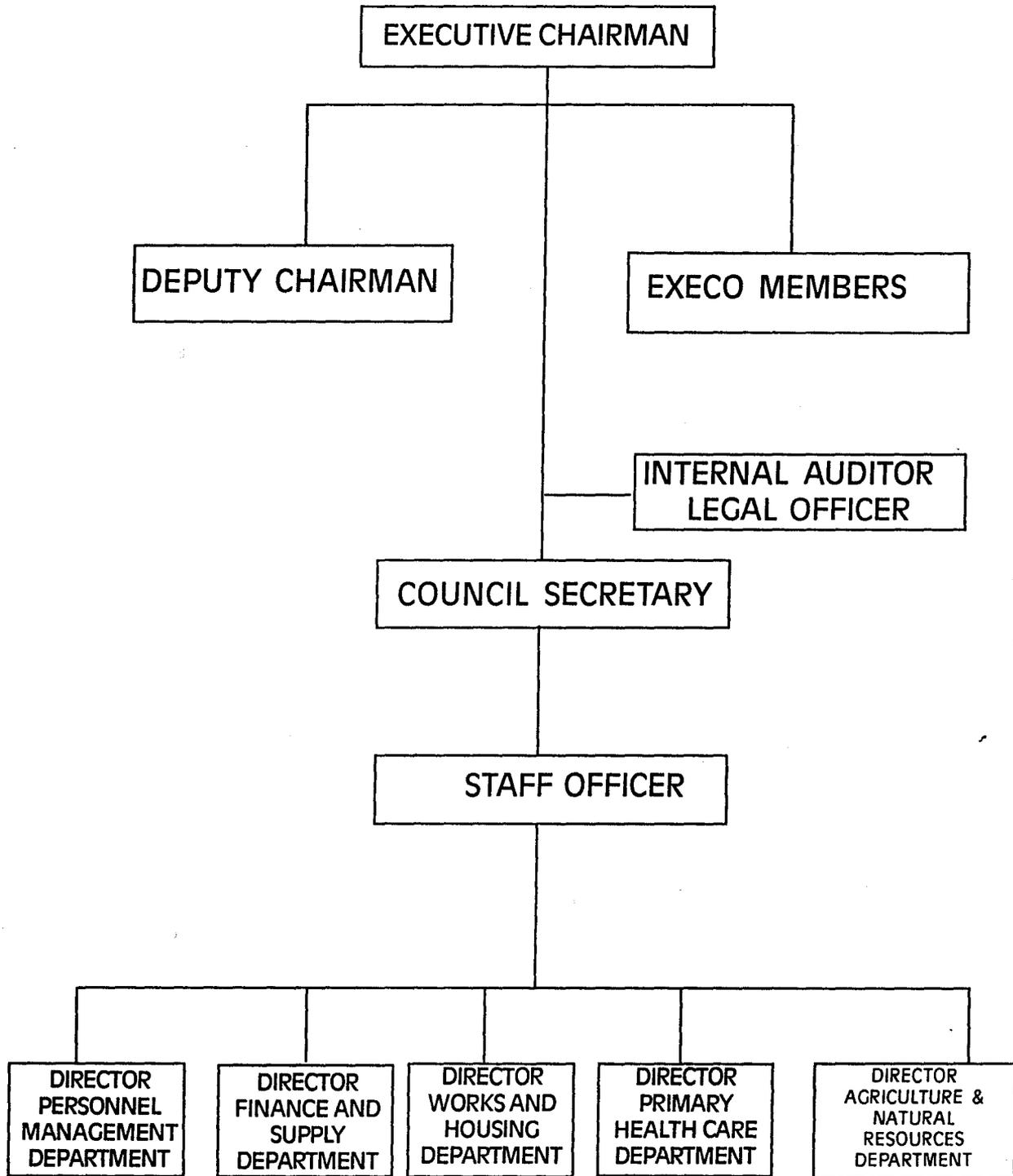
The administrative organizational structure of Minna Local Government Council comprises the following Department:-

- 1. Personnel management Department**
- 2. Finance and supply Department**
- 3. Primary Health Care Department**
- 4. Works and Housing Department**
- 5. Agriculture and Natural Resource Department.**

The above Departments are each headed by a Director. There are several division that come under these Departments. However, since our major interest of this Research is personnel Department. The Personnel

Department keeps the record of all the Personnel working in the Minna Local Government Council. It is the data generated from these record that form the basis of the propose new personnel management information system.

ORGANIZATION CHART



1.3 SCOPE OF THE STUDY

The Research will be limited in scope and coverage to the computerization of personnel management information system of Minna Local Government Council. The computer based personnel management information system to be introduced would be comprehensive. It will be capable to keep tracks of employees working life and into retirement holding basic data such as Name, Sex, allowance, date of Birth, Date of first appointment, date of retirement, Date of last promotion, Detail of all vacancy and applicants training record, Type of leave, service entitlement.

1.4 AIMS AND OBJECTIVES OF THE STUDY

Every Research, publication or whatever human beings embark on must have a purpose or reason. The recent improvement in the application of computer in solving human problem call for critical study of the problem created in Minna Local Government Council, the menace of ghost workers as well as inefficient out ineffective of the existing manual system of keeping personnel records with a view to searching for possible solution to rectify the anomaly. The aims and objective of this project can be outline as follows:-

- a. To study in detail the personnel management information system in Minna Local Government. It problem and prospect and to offer some useful suggestion for possible improvement.**
- b. Design means and strategies required to effect computerization of personnel management information system on theoretical basis. So that in the near future, this can be used for the saome project.**
- c. Engage in academic exercise beneficial to human intellectual development and gain.**

1.5 THE NEED FOR COMPUTERIZATION OF THE PERSONNEL MANAGEMENT

There is every need for computerization in every organization especially the personnel management information system based on the following reasons:-

- 1. To achieved accurate information or record.**
- 2. To provide security for such information.**
- 3. Processing Data or Information at high speed.**
- 4. To provide for easy retrieval of information when the need arise.**
- 5. To be able to add or update record/information when the need arise.**

Going by these need, they are tailored towards saving of time, reliability, effectiveness, efficiency and security of information.

Bearing in mind all these, there are certain characteristics that one expected with any good computerized personnel management information system such good virtues are;-

- i. Recording information**
- ii. Classification of information**
- iii. Sorting of Information**
- iv. Calculation of Data**
- v. Summarization of Data**
- vi. Reporting of information**

CHAPTER TWO

2.1 GENERAL HISTORY OF COMPUTERS

Electronic Computers are linked to a chain of calculating inventions that stretches back to pre-historic times.

The development of tools aid in calculating began with early civilization. People first used stick, stones, shell, notches on a stick, marks in the sand, or knots in a rope to aid in counting later, fingers were used to perform simple computations.

One of the earliest calculating devices created by man is the ABACUS. This ancient calculating instrument has been used for the past 2000 years. In the 17th century, (1617) John Nappier developed an ingenious devices for multiplying and dividing. The device, called Nappier Bone, was use for many years.

In 1642, the first practical calculating machine was built by a 19 years old French-man named called Blaise Pascal. Pascal's calculator was limited to performing only addition and subtraction. About 30 years later, a German Mathematician named Lebeniz developed a similar machine that could also multiply and divide.

The first machine to perform basic arithmetic operations well enough for commercial use was the ARITHMETER, built by Charles Xavier Thomas in 1820. Charles Babbage, an English mathematician designed the ANALYTICAL Engine in 1833, which was the fore-runner of the modern digital computer.

In the 19th century several key-driven machines were developed. Including the first commercially adding machine invented in 1884 by William Borrougns. It was not until about 20 years after Charles Babbage's death that the use of punched Card was applied to data processing. Cards had been used earlier to control patterns in Textiles looms. In 1887, Hermon Hollerith, an employee of the U.S. Bureau of the census, used punched card equipment to process the 1890 census. In 1907, James Powers developed a punched card system to process the 1910 census. These machine were fore runner of electron mechanical data processing system.

In the years 1939-1944, Harvard University, led a group of engines in the design of the ASCC (Automatic Controlled Calculator) also called the mark I. This large machine used a program to guide it through a long series of calculations. By 1941 Konrad Zuse had completed three relay calculators that incorporated many of the ideas of automatic computing. In

1942, John V. Atanasoff and his assistant, Clifford Beely Devised the first digital computer to work by electronic means, the ABC (Atanasoff - Beer Computer) called Colossus.

The first large scale, general purpose electronic digital computer called ENIAC (Electronic Numerical Integrator and Computer) used to compute firing and ballistic tables for Army Artillery guns was put into operation. In 1946 at the University of Pennsylvania (U.S.A) by John Mauchly and J. Prosper Eckert.

The first stored program computers were completed in 1949, EDSAC in England and BINAC. In the U.S. The EDSAC (Electronic Delay Storage Automatic Calculator) was designed and constructed at Cambridge University in England by Maurice V. Wilkes and his associates while BINAC (Binary Automatic Computer) was built by ECKERT and Mauchly.

In 1951, an improved model of EDVAL (Electronic Discrete Variable Automatic Computer) which was smaller, more versatile, and more flexible machine than ENIAC was designed and became a true stored program binary machine using numbers for both instruction and data.

The first computer designed with eventual real-time applications in mind was developed by the Massachusetts Institute of Technology. In 1945

and called WHIRLWIND I. Completion of this project resulted in the development of magnetic core memory, the primary internal storage used in all computers until 1964.

The first business data processing system, UNIVAC I was delivered to the United States Bureau of census in 1951. UNIVAC I was developed by Eckert and Mauchly and contained 500 vacuum tubes. UNIVAC I could read, compute, and write information simultaneously. Not long after UNIVAC I was in operation, automatic programming techniques were developed to help people use these machines. These Techniques have since become programming languages that one used extensively in solving problem on modern computer.

IBM (formed in 1911) moved continuously into the computing market, with its first commercial computer, the 701, in 1952. IBM has been in an ideal position to dominate the computer market, which it has done consistently.

2.2 HISTORY OF COMPUTER IN NIGERIAN

Nigeria started it tinkering with computers in the early 60's when the then industrial giants introduced the first set of computer into the country.

The first in the introduction computer was Nigeria Tobacco Company (NTC) and was later followed Nigeria Railways Co-operation (NRC). These computer were mainly used for personnel records. University of Ibadan later followed with a slight invention of using the computer in the area of Scientific research and application.

Today, the situation has change According to Ogis and Ododo (Computer user directory, 1988) there are about 800 or more computer installation with due regard to capability. Talking in the 90's will mean a different thing entirely. The records posted by Ogis and Ododo may not even speak of the true position of things since the record did not take care of the privately procured ones that were not reported.

Assumption is that installation would have been in the region of millions but records has it that Nigeria Investment in the industry now stand at about N30 billion. In Nigeria today computer has find a place in our homes, corporate organization, Government organization and medical profession for the purpose of management, scientific research, auditing, payroll, accounting, agriculture and diagonitic purpose e.t.c.

2.3 ANALYSIS OF OPERATION OF EXISTING SYSTEM.

The existing system as is being used today was critically appraised using the following approaches:-

- a. Method of information generation.**
- b. Method of Data processing.**
- c. Method of file organization and storage.**
- d. File movement.**
- e. Security and safety of file.**

The method adopted in data/information generation is simple. All operation from day of first appointment to date of retirement are manually done in Minna Local Government Council. The applicant submit application letter for employment and attached to it photocopies of his credentials to the personnel Department for on ward processing and consideration. Immediately after the submission of the application, a file is opened for the applicant with a number for due processing.

After the necessary approval is obtained and letter of offer of appointment issued and accepted, the new employed is expected to resume work in the Local Government. On resumptions a second file (Secret) is

opened in his Name and Number. When these initial formalities of documentation are completed the files are kept. In the Secret Registry.

Open files which are Staff (employee) personnel file are kept in a metal filling cabinet in the open registry. While the secret file are locked inside the metal filling cabinet under lock for safety and security. The method of file organization for the 2 registry is serial.

When the need arise for an information or references have to be made a particular file, the file is trace manually, one after the other until the desired file is reached. When the desired file is located, it is removed and minute on to the officer requesting for it. When the file is return to the registry it is placed in it formal position. File sorting, personnel files are sorted manually and arranged according to department.

2.4 PROBLEMS OF THE EXISTING SYSTEM.

Usual problem of this types of manually maintained basic personnel records are:-

- i. Employ large number of people resulting in high wages bill.**
- ii. Data processing is always very slow.**
- iii. Poor file handling result in destruction or mutilation of vital document.**
- iv. Occupies allot of space**
- v. Poor security and safety of files.**
- vi. Operation are prone to error.**
- vii. Reported cases of missing files.**

2.5 ANALYSIS OF PROPOSED NEW SYSTEM.

The proposed new system implies the application of computer system to the manually maintained data processing with specific to personnel management information system. The proposed system will be analysed using the following method:-

- a. Method of data/information generation.**
- b. Method of file organisation and storage.**
- c. Method of file organization and storage.**
- d. File movement.**
- e. Security and safety of files.**

The method of data/information generation is near similar to the one used by the old system since it is generated from individual application letter and attached document. The information are collected and inputed into the computer by the operators.

The method of data processing; adopted here is that each personnel is given an identification number from which he/she is uniquely identified in the database to be extracted. Once given the I.D number all other data are supplied and attached to the I.D Number of the personnel. This process is

repeated several time for each personnel. So instead of having separate file for each personnel on the same type of data information, you have one single file for all. This often is referred to as the database file. After all the data information has been entered, you then sort the records accordingly.

Method of file organisation and storage is that a single database is created for the whole personnel with a given name to the file. This name of the file is what is required all the time to load it to the computer memory any time a specific information is sorted after. Hence, the file name describes the cabinet, while the contents describe the file contained.

The effect file movement, information dissemination, you can adopt two methods. The first one is either that you have the file view the information on the display by issuing queries that will actually lead you to the specific information requirement or in the alternative, issue query as at when necessary and print the requested information on paper.

2.6 ADVANTAGE OF THE PROPOSED NEW SYSTEM

The advantage of the proposed new computer based personnel management information system are outline below:-

- i. High speed of processing information.**
- ii. Lesser personnel as operators.**
- iii. High degree of efficiency.**
- iv. Reduction in space occupied by file and cabinet.**
- v. Better personnel management information system.**
- vi. A more effective department.**
- vii. High degree of accuracy.**
- viii.Reduction in time spent in searching and moving data.**

CHAPTER THREE

3.1 RESEARCH METHODOLOGY

There are several investigation techniques, among which a researcher must employ in his/her attempt to undertake a research. In practical terms, the researcher is hardly able to employ a single investigation techniques in his attempt.

According to Hill-Way and Tyrus in 1964 in their Book title; introduction to research "In any given investigation, it may be necessary (Infact frequently desirable) to use two or more of these general types of research in combination. There is no reason for instance, why one should not seek the solution of the problem by study it history through an examination of document (Content analysis) and then determine it present status by some sort of survey.

This research work employed the following fact finding techniques; lecture handout, published papers, text-books and oral interview of the officials of the personnel department of Minna Local Government Council.

Interview are by far the most common and most satisfactory way of obtaining information, particularly to obtain information about objectives,

constraints, allocation of duties, and problem and in the failure of the existing system.

The underlisted guidelines were followed, in order to conduct a successful interview:-

- i. prepare for the interview by learning about the individual to be interviewed and the overall function of the organization.**
- ii. Outline the purpose and scope of the study, making sure that all questions are answered.**
- iii. Bring up specific question about procedure that might lead to information about area of improvement.**
- iv. Limit the amount of note taking in order to avoid distracting the person being interviewed.**
- v. At the end of the interview, analysed and summarized the information gathered.**

3.2 SCOPE OF THE FEASIBILITY STUDY

The scope of the data collected for the feasibility study is limited to the following areas:-

- i. Personnel data**
- ii. Method of data processing.**
- iii. Method of file organization and storage.**
- iv. File movement.**
- v. Efficiency and effectiveness.**
- vi. Security and safety of files.**
- vii. Time constraint.**

3.3 REPORT OF THE STUDY.

During the period of investigation, allot of information were gathered on the operation of the existing system. In sum, the balance sheet of the report on the information gathered or generated confirmed our fear that present personnel management information system has outlined it usefulness because of the following basic factors:-

- i. The speed to which data are collected and processed is not fast enough to meet the challenges of today.**
- ii. The existing system allowed too much room for error.**
- iii. Information on personnel matters are not readily available and when available, is always too late.**
- iv. No adequate data security and safety.**

OPERATIONAL FEASIBILITY.

The operational feasibility of the proposed system was conducted during which it was discovered that the new system envisaged is operationally feasible because of the following:-

- i. Top management have accept the idea of computerization.**
- ii. There was estacy that the office is going computerized.**

- iii. **There was yawning need for a change to a more effective means of data processing.**

TECHNICAL FEASIBILITY.

It was discovered during investigation that the proposed system can be handled with the current equipment, existing software technology and available personnel through indoor training or sent for computer training in one of the numerous computer institute in town.

FINANCIAL FEASIBILITY.

The cost of implementing the proposed system would be quite affordable as the required computers are available locally and the council can afford the financial cost of the new system.

3.4 BENEFITS OF THE PROPOSED SYSTEM.

The likely benefit of the proposed system might be highlighted as follows:-

- i. Reduction in staff strength within the personnel department.**
- ii. Fast means of data processing and information presentation.**
- iii. Reduction in space occupied by file and cabinet.**
- iv. Reduction in time spent in searching and storing data.**
- v. High degree of accuracy.**
- vi. Avoid duplication of effort.**
- vii. A more effective and efficient department.**

3.5 THE PROGRAMMING LANGUAGE.

The choice of the programming language is an important factor to be considered when developing a system.

Dbase IV was chosen as the programming language to be used in the development of this system. It was chosen because of its powerful and useful features it possess.

These are some of the features:-

- i. Information storage and retrieval; Dbase IV handle storage, retrieval and organization of information in an efficient manner better than others micro computer based DBMS.**
- ii. User friendly; Dbase IV facility for the user queering language in processing information stored.**
- iii. Programming command; its command are short, easy to co-ordinate and remember.**
- iv. Debugging Dbase IV include some feature for tracking unworked program bugs. Few programming language offer such facilities.**
- v. Report generation; it allow for customization of report.**

INTRODUCTION TO DBASE IV.

Database management system (DBMS) is a software that construct, expands and maintained data in a database. It also provide the interface between the user and data in such a way that it enables the user to record, organise, select, summarise, extract, report on, and otherwise, manage the data contained in a database.

DBASE IV was designed to provide the user and developer with most, if not all, of the features of the many competing database products and the wide array of products that have been developed as add-on for dBASE III and dBASE III plus. It is said to be one of the most popular and powerful DBMS available for personal computers.

Dbase IV organises data into database file. A database file is a collection of related records. It is in form of a two dimensional table consisting of number of rows and columns. Each row represent a record in the database file, and each column represent a field in the record of database file. Therefore, a database file is made up of some components which are record and fields. A record is all the information about a single item, while a field is a unit of information within each record of a database file.

When applied to personnel records, a database file can be set up to keep the records of employees. This is done such that each employee's information such as employee's Number, Name, Age, Sex, Department, Rank, Grade, Level, Annual Leave, Date of first Appointment, Types of appointment e.t.c. are provided for each of these will be regarded as a field in the database file while the collective information of all these fields on an employee will be referred to as record.

METHOD OF PROCESSING DATA IN DBASE IV.

dBASE IV provides two different methods of processing data stored in database files. These are interactive processing mode and batch processing mode.

In the Interactive processing method, two options are available namely:-

Control centre mode and Dot prompt mode. In the control centre mode, commands are supplied to dBASE IV by the selection of options available in the menu provided by the control centre.

In the Dot prompt mode, command are supplied by the user by typing them from the keyboard. In each case, the commands are interpreted and

executed by dBASE IV to produce result.

For the Batch processing method, the commands are stored in the form of a program and are executed in a group.

DESCRIPTION OF THE CONTROL CENTRE.

The new user interface, called the dBASE IV control centre, allows you to interact with the program in most of the areas where such interaction is necessary to design, analyse, and print reports, labels, and other items. It is a graphics environment that provides an easy way to manage and access files. It serve as the gate way to accessing the dBASE IV menu system.

The control centre is useful to various computer users. It enables a non-computer professional to manage a database with less training.

The control center provides you with a substantial amount of information. The top left point of the screen is known as the menu bar.

There are three menu items in this bar namely:-

- i. Catalog
- ii. Tools
- iii. Exit

A catalog is a group of related files which may include database, view, reports, forms, labels, and programs. Therefore, the catalog menu allows you to select and modify data files and other related files to be used in the application.

The tools menu provide you with useful utility for data management for import and export of data, for continue of files through DOS (Disk Operating System) functions, and for the way to interact with program.

Finally, the Exit menu allows you the option of quitting DBASE IV or jumping to the DOT prompt mode.

DESCRIPTION OF THE PANEL.

- 1. DATA PANEL:** Database file are created in this panel. They contain the data that will be used in a database management environment.
- 2. QUERY PANEL:** A query file is created to filter out records from the database. In this case, the query parameter are specified in the query file so as to be able to list out records that meet the specified condition.
- 3. FORM PANEL:** The form panel enables the user to create customised screen, design an appealing data entry screen and arranged in a

manner that will be fascinating.

4. **REPORT PANEL:** A report is a print-out containing information from a database file. A report file, therefore, contain information used for generating a report.
5. **LABEL PANEL:** This is used to create labels which will generate information from a database file.
6. **APPLICATION PANEL:** This is used by advance dBASE IV users to either enter instructions in form of program or for application generator.

3.6 COMPUTER REQUIREMENT

1. HARDWARE: The hardware of a computer refers to the various mechanical, magnetic, electrical and electronic parts of a computer. the powerful the features of the hardware system, the better the utilization of the system. For the hardware requirement a computer with the following will be ideal;

i. IBM PC or Compatible.

Intel 80486 Sx /33 MHZ EISA Processor- TOWER CASE

4 MB RAM (Expandable 0t 64 MB)

200 MB IDE Harddisk, 15 MS seek time

2 serial 1 parallel parts

4 free expansion slot

3.5" floppy Disk drive

5.25" floppy Disk drive

MONITOR

14" COLOUR SVGA (10 24 x 768 PIXEL 0.28)

PRINTER

LASER JET PRINTER

BACK UP DEVICE

External Tape Drive

APC smart Un-Interruptable power supply (UPS)

Inorder to avoid unnecessary interruption of power supply which may eventually lead to loss of information. A un-interrupted power supply of about 500VA will suit the purpose of this system. Acquisition of back-up equipment is recommended to this effect.

2. SOFTWARE REQUIREMENT.

The software of a computer system is a collection of program that are responsible for the controlling of the activities of the computer. The software requirement are essential for the operation of the proposed system are as follows:-

i. MS-DOS Operating system version 6.0

Tailored program

DBASE IV

ii. CONSUMABLE**SONNY DATA CARTRIDGE****3.5" HD DISKETTES****5.25" HD DISKETTES****3. ACCOMMODATION AND FURNITURE****i. Computer chair and table****ii Air condition**

3.7 SYSTEM CHANGE-OVER

The change-over plan include a description of all the activities that must occur to implement the new system and it into operation. It identifies the person responsible for each activity and include a time table indicating when each activity will occur.

JAMES A.S (1989) advised that during the pre-implementation stage, when the change-over is being planned, analyst should assemble a list of task, including the following:-

- i. List all files for conversion.**
- ii. Identify all data required to build a new file during conversion.**
- iii. List all new documents and procedure that go into use during conversion.**
- iv. Identify all controls to be used during conversion. Establish procedure for cross checking the old and new system. Determine how team members will know if something has not been completed properly.**
- v. Verify conversion schedules.**

The change over scheduled should anticipate possible problems and ways to deal with them. Among the most frequently occurring problems are

missing documents, mixed data format, error in data translation, missing data or lost files and situation that were over looked during system development. The conversion manager must guard against the omission of steps in the conversion process. Personnel absences must also be expected and adequate fall back plans specified. Changeover timing is challenging since there are so many aspect of the conversion, ranging from the installation of equipment to the ordering of forms and supplies.

When many persons are involved in the conversion as further suggested by James (1989). Someone from the organisation systems department should be appointed as conversion manager. This individual is to serve as contact person (Co-ordinator) for outside vendors and for management, and user personnel. The conversion manager is also responsible for checking all arrangement, reviewing conversion plans, verify the delivery of equipment, software, forms supplies and preparing the site or computer room.

It is envisaged that the system changeover will not be whole scale but will be done in phase (parallel running). This means processing current data by both the old and new systems.

It is (parallel running) main attraction is that the old system is kept alive and operational until the new system has been proved for atleast one system cycle, using full live data in the real operational environment of place, people, equipment and time. It allows the results of the new system to be compared with the old system before acceptance by the user, thereby promoting user confidence. The advantage of this method is that there is a back-up system available in case of any disaster or system break down.

CHAPTER FOUR

4.1 INTRODUCTION

As mentioned in the previous chapters the analysis of details collected during system investigation had confirmed the necessity for the introduction of a new computer based personnel management information system. As such we would now proceed with next line of action. The new system is envisaged to:-

- a. Embrace the existing organizational arrangement already in place so as to support to it performance.**
- b. Cover the entire Minna Local Government Council personnel records.**
- c. Be reliable and easy to be used by the personnel of the organization.**
- d. Meet all other users requirements.**
- e. Provide system specification (As in chapter 3).**
- f. Take care of the uniqueness of the individual personnel.**

4.2 HOW TO RUN THE PROGRAM (dBASE IV)

At the DOS (Diskette Operating System) prompt, change directory to dBASE sub-directory or set DOS path to the dBASE directory if is not already set in your AUTO EXEC. BAT. file (refer to DOS manual for more information on the usage of path)

i. At the DOS Prompt.

Type dBASE and press the <ENTER KEY> Wait for some few seconds, dBASE IV will be loaded and present you with the DOT prompt.

Insert your program disk in either drive A: or B: and change default to the drive where your program reside by typing the following command at the DOT prompt.

*** SET DEFAULT TO A: OR B:**

ii. AT THE DOT PROMPT

Type DO MENU and press the ENTER KEY. dBASE IV will execute the program file called MENU PROGRAM.

During the execution, the program will clear the screen, and present the user with the main menu consisting of listed options.

MENU PROGRAM

Menu program is the main program that display the menu options. In a rectangular box at the centre of the screen called opening menu. Options provided one describe below:-

EXIT TO DOS

By choosing this option from the menu the program will quit and passes return to DOS prompt. A message will be displayed on the screen reminding the user to make a Back-up copy of all database files. All variables names used in the program will be released. The set on and set off command used in the program will be reset back to their defaults.

ADD PRG.

Choosing this option the program will execute another procedure called add program. This procedure will enable the user to add new records to the database file.

The data entries form will be presented to the user to enable him input some records. The entered records does not go to the database file directly in order to maintain data base integrity. At the end of entering a record the program will pause and present the user with the message "Are these entries 0.K (y/N)? This will enable him/her to validate the entered record. If the user choose 'N' denoting that the entered record is not correct, The program control will immediately transfer the cursor to the first field in the database to enable the user to effect the desired changes or correction. On the other hand, if the user choose 'Y' meaning that the entered records is correct, the program will then write the record from the variable field in the database file. After the record has been written to the file, the program will again present the user with the text "Do you want to add more records (Y/N)? This will enable the user to decides whether he/she wants to continue to add more records or not.

EDIT RECORD.

This option will enable the user to effect changes to the existing records in the database file. The program will display a text Edit Enter staff no: and pause for the user to input then search the database file for a

match with the staff No. entered. If a match is found the corresponding records to that staff No. entered will be displayed on the screen and the cursor will be in the first field of the form to enable the user to effect the desired changes. Also a message will be displayed asking the user if she/he want to modify more record or not.

SORTING OF FILE.

Sorting is taken to be a more efficient way of organising data records. The Sorting operation can use one or more fields as key fields on which to generate an sorted file that will contain the key field entries and their corresponding record numbers. The program allowed arrangement of records in an Ascending or Descending order on the sort key field i.e Grade level or staff number, age, sex, e.t.c.

ASCENDING:- Sorting in ascending order will arrange the record serially with the smallest grade level above.

DESCENDING:- Sorting in descending order arrange records serially with the highest grade level above and the smallest below:-

The format of creating an sort file is given below:-

SORT ON < Name of key field > to <Name of sort file >

For instance-

SORT ON STAFF NO TO CLASSV NDX.

for multiple field indexing operation the command can be given as:-

SORT ON GRADE LEVEL x AGE x SEX TO CLASSIS DBF.

MISCELLANEOUS MENU.

The miscellaneous menu provide the user with a sub-menu to the opening menu consist of the following options:-

EXIT TO OPENING MENU.

By choosing this option the program will return back to the opening menu.

DELETING OF A RECORD.

The program to delete a record similar to that of editing or modify program, because the record has to be searched for before the deleting procedure can be activated. dBASE IV uses the combination of Delete and PACK Command to accomplish this task.

At the beginning of the running of the program a text to displayed on the screen to enable the user enter the staff number to be deleted. The program search the database file for the corresponding staff number if a match is found the record will be displayed on the screen to enable the user view the record he want to delete, at the same time the message "Delete this record (Y/N)? will be displayed at the bottom of the record. If the user choose (N) denoting that he do sent want the record to be deleted the program will write the record back to the database file. If the user chooses (Y) meaning he want the record to be delete, the program will permanently remove the remove the record from database file.

RECALL A RECORD.

At the running of this procedure the program will displayed a message to enable the user to enter the desired staff number to be recalled, the program will search the database file for the entered staff number if match is found the filter condition that hide the record will be set off. On the other hand if a match is not found the program will display on error message "RECORD NOT FOUND" > The user should process any key to continue.

SUSPEND A STAFF.

The suspend of a staff option will enable the user to temporary remove the name (record) of the suspended staff from the database. At the turning of this option the text suspend what staff number will be displayed on the screen to enable the user input the staff number. The suspended staff number will be searched in the database file. If a match is found the record will be set to meet the filter condition.

REPORT GENERATION.

The report generation menu has there options vz:-

- [0] EXIT TO Opening menu.**
- [1] General staff list.**
- [2] View suspended/terminated staff.**

4.3 ANALYSIS OF THE PROGRAM.

The entire program is menu driven, at the running of the program a menu is displayed on the screen consisting of file option as below:-

- [0] ADD NEW RECORD.**
- [1] Edit old RECORD**
- [3] DELETE OF RECORD**
- [4] SORTING**
- [5] EXIT.**

The above listed option are therefore sub-programs to main program which execute when desired option is selected from the menu (As describe above in 4.2).

4.4 INPUT/OUTPUT SPECIFICATION.

INPUT:- The Input to the program are name of staff working in the various Department of Minna Local Government Council via the standard input device key board.

OUTPUT:- The output from the file are record of staffs working in the mentioned organization. The reports could either be in a hard copy or visual on the standard output device (Monitor).

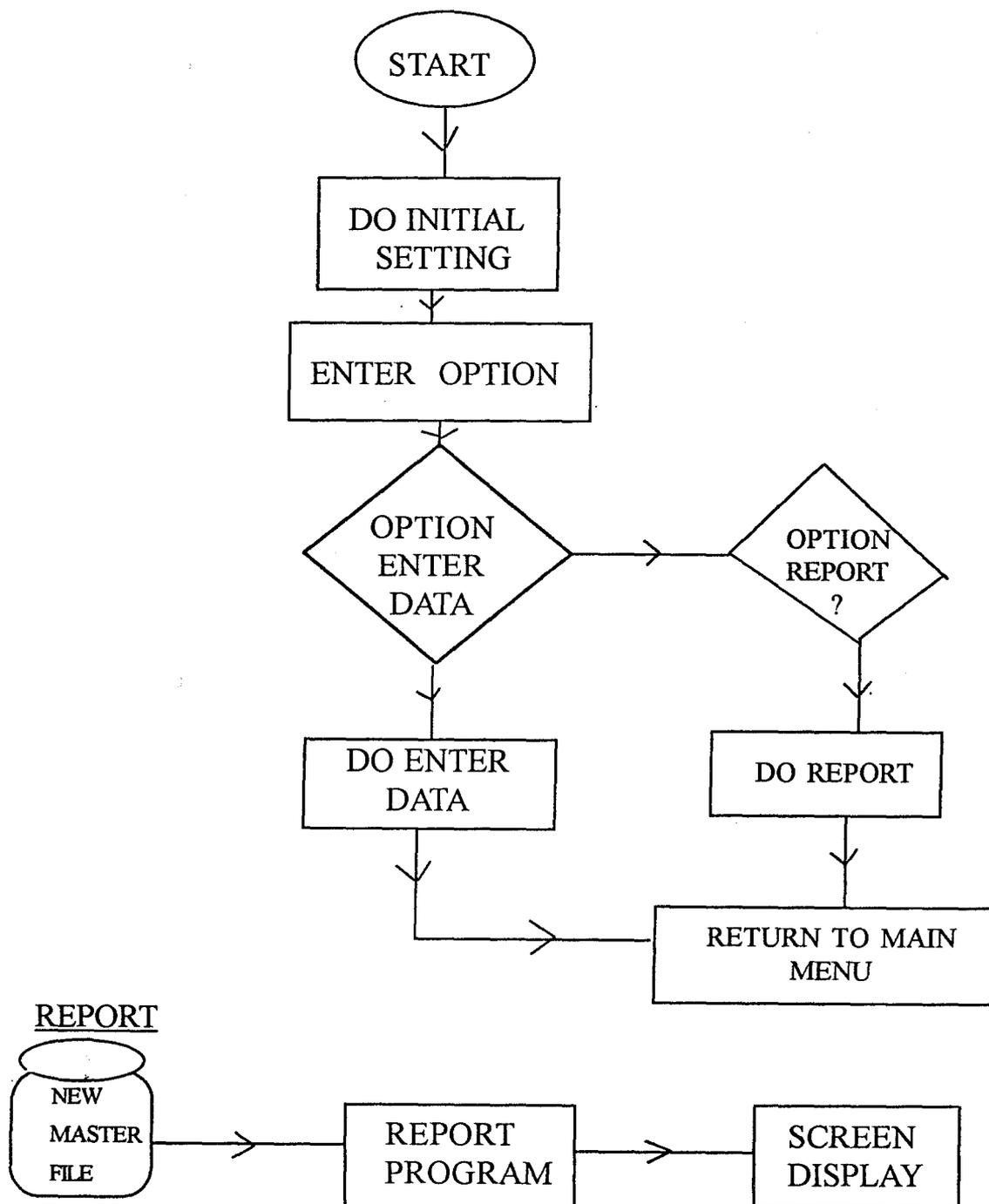
4.5 PROGRAM USER MANUAL.

The Program staff PRG is written in dBASE IV tailored towards the result from investigation of the existing system of management information system in Minna Local Government Council. This program will replace the manual operation of preparation of nominal roll e.t.c. as well as the maintenance of dBASE file.

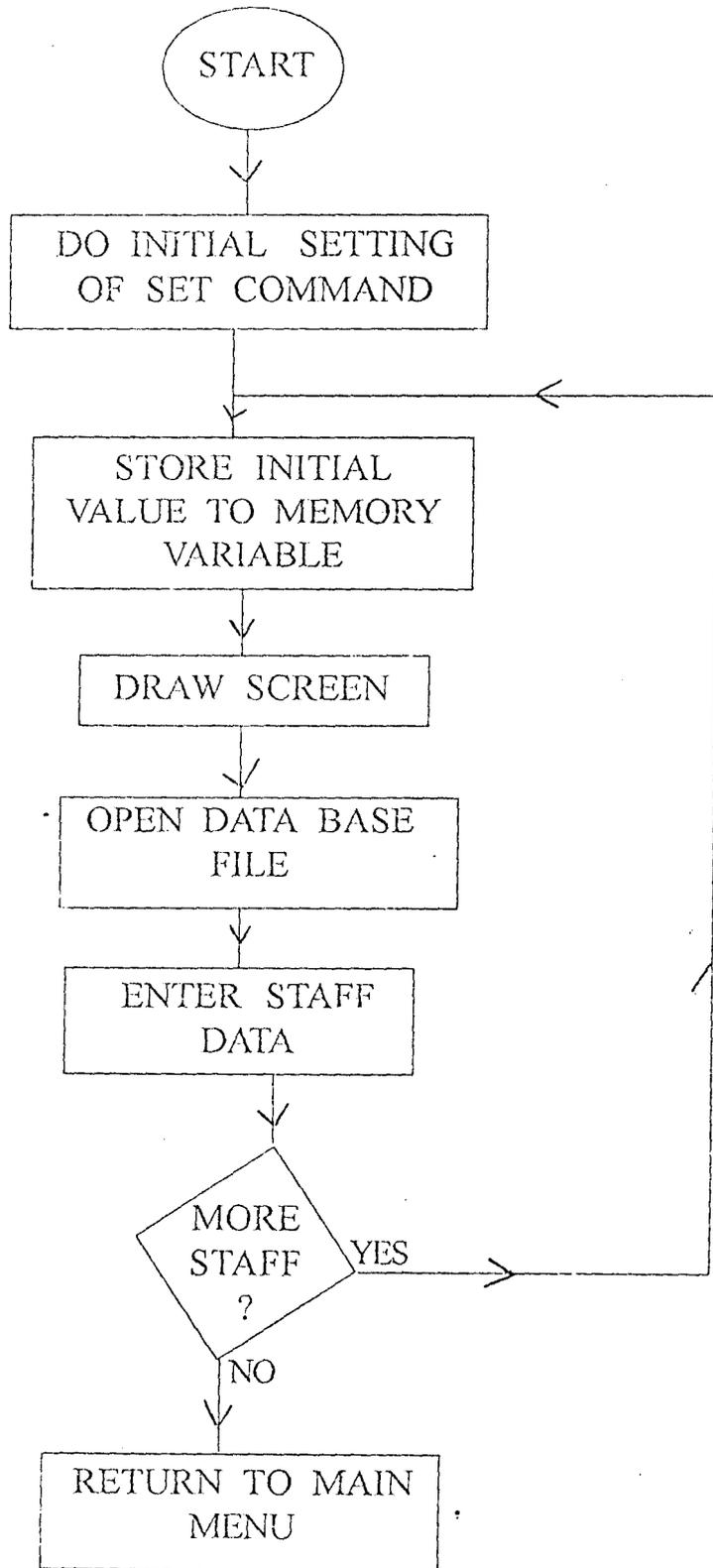
4.6 FLOWCHART OF THE PROPOSED SYSTEM.

Flow chart is a pictorial (graphical) representation of steps taken to solve a specific problem.

PROGRAM FLOW CHART MAIN MENU



ENTERING NEW STAFF RECORD.



4.7. SYSTEM IMPLEMENTATION.

System implementation includes all the activities to be carried out when converting an old to new system since the time the decision to computerize was taken down to the time when the new system is fully operational. The implementation stage covers the following:-

TRAINING NEEDS

The existing personnel would be given an in-house training to enable them have basic knowledge on how to operate computer system and its peripheral devices. Emphasis would be given to data entering and other relevant aspect of computer operation.

SYSTEM INSTALLATION

The installation of the equipment (as specified in chapter 3) to be used is done by the computer or hardware expert. The equipment which may comprises of IBM PC or compatible double floppy or hard dick. Compatible printer and the software necessary to be used.

SYSTEM MAINTENANCE

In order to protect against interruption of computer services, hardware require regular maintenances. In large a installation, preventive maintenance should be carried out at a specific time that is allotted for this purpose. If so, maintenance personnel may be assigned to the installation on full-time basis, or may be given maintenance checks once a week or be "on call" basis.

Preventive maintenance involve identifying and replacement of component that are likely to fail, and keeping mechanical parts properly adjusted.

PROGRAM MAINTENANCE.

Program maintenance involves updating program for necessary changes. Programs tends to be dynamic for necessary changes. Program tends to be dynamic and most of them are subject to periodic revision. Some programs are subject to frequent modification. Sometimes, when revision are extensive, an organization consider completely re-programming the job instead. Specific programmer could be assigned to the job of program maintenances.

SECURITY METHOD.

Information in a database file is highly essential for the day-to-day running of the organization, so precautions have to be taken in order to protect the data from unauthorised persons. Method of data security include the following:-

- i. Introduction of password to the database which is known only to the database manager and the computer operators.**
- ii. Locking-up drive bays:- The drive bays can be locked up so as to prevent unauthorised copying or data entry.**
- iii. Back-up system:- refers to the copy of the database kept away from the main database. This prevention is necessary in case the main database is tempered with or destroyed. The back-up copies act as stand by incase of unexpected failure or destruction of the database. The back-up copies can be written, documented, copied on floppy diskette, copies on CD ROM.**
- iv. Installing Anti-virus packages which are capable of detecting virus diskettes and also cleaning up of virus that might be introduced to the system.**

CHAPTER FIVE

5.1 ACHIEVEMENT OF THE STUDY.

The research conducted on computerization of personnel management information system in Minna Local Government Council has achieved tremendous success in the following areas:-

- i. High speed of processing data and presentation of information achieved:-** Before the introduction of computers, there was the problem of slow space in processing information manually, which required urgent attention by the management. Apparently, with the computerization of personnel management information system job execution become faster and easier. Computer system installed can amass, manipulate, and provide data in fraction of a second. Computer can perform in minutes task that would take a person years to complete. Consequently, bring about effectiveness and efficiently in the achievement of organizational goal.
- ii. Reduction in staff strength within the personnel department achieved:-** prior to the computerization personnel management information system more hands (staffs) were required in the personnel department to carry out staffs record keeping, more than 20 staffs were

responsible for the maintenance and updating of staff records manually. The computerization of personnel management information system, very few people (staffs) are now involved in operating the new system. Consequently, reducing redundancy and the high wage bill incurred by the Local Government.

iii. **Reduction in space occupied by files and file cabinet.** Before the computerization of personnel management information system there was complained of inadequate storage facilities and there are many case of missing files. Sometimes you find it difficult to locate a particular staff file. So the whole exercise became cumbersome.

Introduction of computer in the department solved the problem of storage facilities and reported cases of missing file is minimized. Personnel records are conveniently stored, sorted, manipulated as well as retrieved when the need arise.

Nevertheless, it is also cost effective, the expense incurred in purchase of files, papers and file tags, with each staff having more than 2 to 3 volume files. And the problem of file replacement in the case of mutilated files is solved. Since all staff record are inputed into the new system (computer).

- iv. Privacy and information security achieved:-** By data security we mean the protection of data against unauthorized disclosure, modification or destruction. By privacy we mean the individual right to share or not to share information with others. Prior to the computerization of personnel management information system. Personnel records kept in both open and secret were not protected from un-authorized persons. There are reported cases where pages of file were defaced by un-authorized persons. The newly installed system, now guaranteed information security from un-authorized persons. The following measures was employed to ensure security; introduction of "password" to the database which is known only to the database manager and the computer operator. Locking up drive bays so as to prevent un-authorized copy and data entry.
- v. High degree of Accuracy and Reliability achieved:-** Computer system are widely accepted because of their exceptional reliability. Record manually processed are prone to error and mistake. Computers process data accurately as well as quickly. Accuracy is a prime consideration in installing the new system to ensure reliability in processing personnel records. Unlike most human, they are capable

of operating under the most adverse condition for extended period of time without showing sign of fatigue. Computers consistently provide the same result under all operating condition.

- vi. **Better management information achieved:-** The installed system when properly used, can improve the efficiency of the organization. It provides a fast, accurate and reliable device of processing data as well as presentation of information.

The problem of ghost workers was completely eradicated with introduction of computer in the personnel department. Consequently, reducing the high financial burden incurred by the Local Government.

5.2 RECOMMENDATION / SUGGESTION.

As a result of the finding of this research, some important problems were uncovered. Which the researcher felt the following recommendation are worth while if all things are to be put right to enhance effective computerization in the area of study.

As a result of lack of enough computer literate personnel in the state. It is recommended that the authority concerned should do something to raise the level of computer literacy. In the Local Government Council especially

computers operators. To this effect, it is important to suggest a computer training centre may be established in the Local Government Council or alternatively send some staff for computer training at Federal University of Technology, Minna Computer Centre to reduce the cost of personnel Training for the Local Government and to boast availability of computer literacy. A basic computer literacy course should be made compulsory in most tertiary institution in the state. Also priority should be given to computer literacy for employment in Local government.

In connection with lock of suitable or conducive atmosphere for computer installation. It is important to recommend a separate computer room, fully air condition with sufficient lightening system. This will keep in cooling the system and high productivity in the part of computer operators.

At any point in the process of computerization, the top management should be involved and committed. This is because if they show enthusiasm for the project and follow it progress regularly, the researcher assures that all members of the organization are likely to reflect this interest.

Based on the feasibility study, hardware and software requirement. An insider should be part of such committees. This is seen as enabling the

system analyst doing the feasibility study have a closer relationship with the computer users and understanding their likely problems. And the insider to be chosen should be that which is affected or going to be affected when ever the recommendation of the study is to be implemented.

A WORD OF CAUTION.

It is true that computer can be used effectively to perform all kinds of task, particularly now they are available at prices that most organization can afford, it is too common to find example where computers have been introduced to make thing better and have only made things worse. The reason for this are in some ways quite simple. A computer will only succeed when these using it have taken the trouble to determine:-

- a. What they require the computer to do.
- b. How the computer can best do it.
- c. Whether the benefit are worth the cost.
- d. Whether these involved one ready, willing and able to work with the computer.

If any of these is missing. There is every chance of introducing a computer which does the wrong job in the wrong way, has caused extra

expense and provide in-effectiveness.

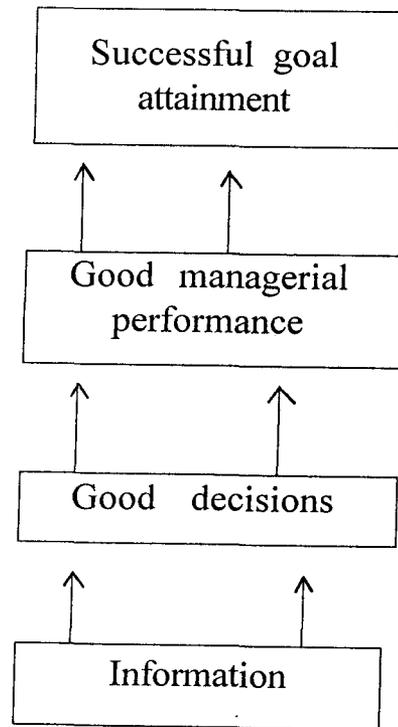
5.3 CONCLUSION

There is no doubt that proper implementation of the new system will enhance the effective and efficient performance of personnel department in Minna Local Government Council from the cost and benefit analysis, previous discussed in chapter 3 we observed that the overall benefit of installing a new system will out weight the cost, considering the hardware requirement.

We are convinced that once the new system is installed, the menace of ghost workers as well as problem of high monthly wage bill which has generated allot of concern will become a thing of the past.

When properly used a computer can improve the efficiency of an organization. It provide a fast, accurate, and reliable system with which to process data. The organization employing a computer can trim unnecessary over time, eliminate the waste of supplies, reduce depending upon unreliable employees or outside agencies, improve internal security and increase operational effectiveness. Record/information is the life wire of every organization regardless of the type of organization. The Importance of

information cannot be over emphasised. The computerization of personnel management information system in Minna Local Government should be consider necessary for better management and successful achievement of organizational goal.

DIAGRAM BELOW:-

The above diagram show, the importance of quality information in the hands of those who can effectively use it with support good decision; good decision will lead to effective performance will lead to successful attainment of organizational goals. Thus, information is the bonding agent that holds an organization together.

ALIYU BELLO MOHAMMED

PGD/MCS/97/423

5.4 REFERENCES

- 1. ANDERSON R.G.- DATA PROCESSING AND MANAGEMENT INFORMATION. Maldonold and Evans Ltd, Great Britain.**
- 2. CAGON C. (1973) -DATA MANAGEMENT SYSTEM. Melville publishing company, Los Angels.**
- 3. DAVIS G.P. (1985): MANAGEMENT INFORMATION SYSTEM; CONCEPTUAL FOUNDATION, STRUCTURE AND DEVELOPMENT MC Graw Hill Inc. Int. Singapore.**
- 4. DAVIS W.S. (1981): INFORMATION PROCESSING SYSTEM. Addison Wesley Pub. Co. Canada.**
- 5. DUGGAL .S. (1992) BUSINESS PROGRAMMING USING dBASE IV. a structured Approach to system Development macmillon Pub. Co. Inc. Singapore.**
- 6. EDWIN .B.F. (1983) PERSONNEL MANAGEMENT MC Graw - Hill Inc. Int. Japan.**
- 7. FUORI W.M. (1977): INTRODUCTION TO COMPUTER. The tools of business practice Hall - Inc. New Jenesey.**
- 8. GALLAGHER .M.L (1986): COMPUTER AND PERSONNEL MANAGEMENT. Heinemann, London.**
- 9. HILLMAY, TURU (1964): INTRODUCTION TO RESEARCH METHOD. Boston U.S.A.**

10. **JAMES .A.B. (1989): ANALYSIS AND DESIGN OF INFORMATION SYSTEM. MC Graw - Hill, Singapore.**
11. **LUCEY .T. (1987): MANAGEMENT INFORMATION SYSTEM. D.P. Publication Ltd, Harts.**
12. **HASSEN P.B. (1990): OPERATING SYSTEM PRINCIPLES. Printile Hall of India private Ltd New Delhi.**
13. **P. ZORKOCZY (1988): INFORMATION TECHNOLOGY; AN INTRODUCTION. Pitman books press Britain.**
14. **S.C. BHATNAGAR AND K.V. ROMANI (1989): COMPUTER AND INFORMATION MANAGEMENT. A primer for practicing manager. Printice Hall Int. London.**
15. **SANDERS: (1979) COMPUTERS IN BUSINESS: Grolier Business Library. MC Graw Hill Inc. U.S.A.**

*** MENU1.PRG ***

```
SET TALK OFF
SET STATUS OFF
SET ECHO OFF
SET COLOR TO G/B
CLEAR
* PROGRAM TO COMPUTERISED STAFF RECORD
CHOICE = ' '
STORE 0 TO NUM
DO WHILE .T.
  CLEAR

  @ 8,28 SAY REPLICATE("X", 15)
  @ 10,28 SAY " 1. ADD      "
  @ 12,28 SAY " 2. EDIT     "
  @ 14,28 SAY " 3. DELETE  "
  @ 16,28 SAY " 4. SORTING "
  @ 18,28 SAY " 5. EXIT   "
  @ 20,28 SAY REPLICATE("X",15)
  @ 22,10 say "Enter your choice ?" get num
  READ
  DO CASE
    CASE NUM = 1
      DO ADD
    CASE NUM = 2
      DO EDIT
    CASE NUM = 3
      DO DEL
    CASE NUM = 4
      DO SORT
    CASE NUM = 5
      EXIT
    OTHERWISE
      LOOP
  ENDCASE
ENDDO

SET TALK ON
SET STATUS ON
SET ECHO ON
```

*** ADD.PRG ***

```
SET TALK OFF
SET ECHO OFF
SET STATUS OFF
SET COLOR TO G/B
CLEAR
*****PROGRAM TO ADD MORE STAFF RECORD
USE STAFFREC.DBF
REPEAT = .T.
CLEAR
```

```

YESNO = ' '
DO WHILE REPEAT
CLEAR
STORE SPACE(10) TO MFILENO
STORE SPACE(10) TO MSUR_NAME
STORE SPACE(10) TO MSTACRIGIN
STORE SPACE(3) TO MQUALIFICAT
STORE SPACE(10) TO MENAME
MDAT_BIRTH = CTOD(" / / ")
MF_APP_DAT = CTOD(" / / ")
MPRE_APPDAT = CTOD(" / / ")
STORE 0.00 TO MSALARY
STORE SPACE(2) TO NGRADELEVEL
STORE SPACE(10) TO MPOST
STORE SPACE(2) TO MMAR_STATUS
STORE SPACE(10) TO MBANK
STORE SPACE(4) TO MANN_LEAVE
MSTU_LEVEL = CTOD(" / / ")
STORE SPACE(10) TO MSTU_LEAVE
CHOICE = ' '
CLEAR
@1,10 SAY "STAFF RECORD ADDITION FORM"
@2,10 SAY "===== "
@3,3 SAY "FILENO"
@3,30 GET MFILENO
@4,3 SAY "SUR_NAME"
@4,30 GET MSUR_NAME
@5,3 SAY "ENAME"
@5,30 GET MENAME
@6,3 SAY "STATE OF ORIGIN"
@6,30 GET MSTACRIGIN
@7,3 SAY "DATE OF BIRTH"
@7,30 GET MDAT_BIRTH
@8,3 SAY "POST"
@8,30 GET MPOST
@9,3 SAY "MARRITAL STATUS"
@9,30 GET MMAR_STATUS
@10,3 SAY "SALARY"
@10,30 GET MSALARY
@11,3 SAY "EMPLOYER APPLICATION DATE"
@11,30 GET MF_APP_DAT
@12,3 SAY "PRE_APPDAT"
@12,30 GET MPRE_APPDAT
@13,3 SAY "STUDY LEAVE"
@13,30 GET MSTU_LEAVE
@14,3 SAY "ANNUAL LEAVE"
@14,30 GET MANN_LEAVE
@15,3 SAY "GRADELEVEL"
@15,30 GET NGRADELEVEL
@16,3 SAY "QUALIFICATION"
@16,30 GET MQUALIFICAT
@17,3 SAY "BANK"
@17,30 GET MBANK
@18,30 GET MBANK
READ
APPEND BLANK
REPLACE FILENO WITH MFILENO

```

```
REPLACE SUR_NAME WITH MSUR_NAME
REPLACE FNAME WITH MFNAME
REPLACE DAT_BIRTH WITH MDAT_BIRTH
REPLACE STAORIGIN WITH MSTAORIGIN
REPLACE MAR_STATUS WITH MMAR_STATUS
REPLACE GRADELEVEL WITH MGRADELEVEL
REPLACE POST WITH MPOST
REPLACE QUALIFICAT WITH MQUALIFICAT
REPLACE F_APP_DAT WITH MF_APP_DAT
REPLACE PRE_APPDAT WITH MPRE_APPDAT
REPLACE SALARY WITH MSALARY
REPLACE STU_LEAVE WITH MSTU_LEAVE
REPLACE ANN_LEAVE WITH MANN_LEAVE
REPLACE BANK WITH MBANK
```

```
@19,29 SAY "ENTRY CONFIRMED?(Y/N)" GET CHOICE
```

```
READ
```

```
IF UPPER(CHOICE)="N"
```

```
LOOP
```

```
ENDIF
```

```
@21,29 SAY "MORE (Y/N)" GET YESNO
```

```
READ
```

```
IF UPPER(YESNO) <> "Y"
```

```
STORE .F. TO REPEAT
```

```
ENDIF
```

```
ENDDO
```

```
RETURN
```

```
SET TALK ON
```

```
SET ECHO ON
```

```
SET STATUS ON
```

```
*** EDIT.PRG ***
```

```
SET TALK OFF
```

```
SET ECHO OFF
```

```
SET STATUS OFF
```

```
SET COLOR TO G/B
```

```
*****PROGRAM TO EDIT STAFF RECORD
```

```
USE STAFFREC.DBF
```

```
REPEATZ = .T.
```

```
DO WHILE REPEATZ
```

```
YESNO2 = ' '
```

```
YESNO = ' '
```

```
MFILENO = ' '
```

```
CLEAR
```

```
@1,10 SAY "DATA AMMENDMENT FORM FOR STAFF RECORD"
```

```
@2,10 SAY "*****"
```

```
@4,4 SAY "ENTER STAFF FILE NUMBER" GET MFILENO
```

```
READ
```

```
GO TOP
```

```
LOCATE FOR MFILENO=MFILENO
```

```
IF EOF()
```

```

@18,30 SAY "RECORD NOT FOUND"
ELSE
@ 6,3 SAY "FILENO"
@ 6,30 SAY FILENO
@ 7,3 SAY "SURNAME"
@ 7,30 SAY SUR_NAME
@ 8,3 SAY "FNAME"
@ 8,30 SAY FNAME
@ 9,3 SAY "DAT_BIRTH"
@ 9,30 SAY DAT_BIRTH
@ 10,3 SAY "STA_ORIGIN"
@ 10,30 SAY STAORIGIN
@ 11,3 SAY "MAR_STATUS"
@ 11,30 SAY MAR_STATUS
@ 12,3 SAY "GRADELEVEL"
@ 12,30 SAY GRADELEVEL
@ 13,3 SAY "POST"
@ 13,30 SAY POST
@ 14,3 SAY "QUALIFICAT"
@ 14,30 SAY QUALIFICAT
@ 15,3 SAY "F_APP_DAT"
@ 15,30 SAY F_APP_DAT
@ 16,3 SAY "PRE_APP_DAT"
@ 16,30 SAY PRE_APPDAT
@ 17,3 SAY "SALARY"
@ 17,30 SAY SALARY
@ 18,3 SAY "STU_LEAVE"
@ 18,30 SAY STU_LEAVE
@ 19,3 SAY "ANN_LEAVE"
@ 19,30 SAY ANN_LEAVE
@ 20,3 SAY "BANK"
@ 20,30 SAY BANK
@22,10 say "EDIT (Y/N)" GET YESNO2
  READ
YESNO2 = UPPER(YESNO2)
IF YESNO2 = "Y"
CLEAR
@1,10 SAY "DATA AMMENDMENT FORM FOR STAFF RECORD"
@2,10 SAY "===== "
@ 6,3 SAY "FILENO" GET FILENO
@ 7,3 SAY "SURNAME" GET SUR_NAME
@ 8,3 SAY "FNAME" GET FNAME
@ 9,3 SAY "DAT_BIRTH" GET DAT_BIRTH
@ 10,3 SAY "STAORIGIN" GET STAORIGIN
@ 11,3 SAY "MAR_STATUS" GET MAR_STATUS
@ 12,3 SAY "GRADELEVEL" GET GRADELEVEL
@ 13,3 SAY "POST" GET POST
@ 14,3 SAY "QUALIFICAT" GET QUALIFICAT
@ 15,3 SAY "F_APP_DAT" GET F_APP_DAT
@ 16,3 SAY "PRE_APP_DAT" GET PRE_APPDAT
@ 17,3 SAY "SALARY" GET SALARY
@ 18,3 SAY "STU_LEAVE" GET STU_LEAVE
@ 19,3 SAY "ANN_LEAVE" GET ANN_LEAVE
@ 20,3 SAY "BANK" GET BANK
READ
ENDIF

```

```
ENDIF
@21,30 SAY "MORE (Y/N)" GET YESNO
READ
IF UPPER(YESNO) <> "Y"
STORE .F. TO REPEATZ
ENDIF
ENDDO
RETURN
```

```
SET TALK ON
SET ECHO ON
SET STATUS ON
```

```
*** SORT.PRG ***
```

```
SET TALK OFF
SET ECHO OFF
SET STATUS OFF
CLEAR
YESNO=' '
USE STAFFREC
NUM = 0
DO WHILE .T.
CLEAR
@ 6,35 SAY "SORTING"
@ 8,28 SAY REPLICATE ("S", 20)
@ 10,28 SAY "1. SORT ON NAME"
@ 12,28 SAY "2. SORT ON GRADELEVEL"
@ 14,28 SAY "3. SORT ON FILENO"
*@ 16,28 SAY "4. REP"
@ 16,28 SAY "4. EXIT"
@ 20,28 SAY "PLEASE CHOOSE A NUMBER" GET NUM
READ
DO CASE
CASE NUM = 1
SORT ON SUR_NAME TO SUR_NAME
CASE NUM = 2
SORT ON GRADELEVEL TO GRADELEVEL
CASE NUM = 3
SORT ON FILENO TO FILENO
CASE NUM = 4
EXIT
OTHERWISE
LOOP
ENDCASE
CLEAR
@ 12,25 SAY " SORT COMPLETED "
D = 0
D = D + 1
DO WHILE D <= 10
READ
IF UPPER(YESNO) = "Y"
PACK
ELSE
```

18
3
5 9

```

RECALL
ENDIF
CLEAR
MORE = ' '
@ 12,25 SAY "ANY MORE RECORD TO BE SORT (Y/N)" GET MORE
READ
IF UPPER(MORE) <> "Y"
EXIT
ENDIF
ENDDO
LOOP
@ 22,25 SAY "RECORD DOES NOT EXIST"
?
?
?
WAIT
ENDDO
@ 23,25 SAY "DELETION COMPLETED"
WAIT

SET TALK ON
SET ECHO ON
SET STATUS ON
RETURN

```

*** DEL.PRG ***

```

SET TALK OFF
SET STATUS OFF
SET COLOR TO G/B
CLEAR
USE STAFFREC.DBF
MFILENO = ' '
***** PROGRAM TO DELETE RECORD
YESNO = ' '
ANSW = ' '
REPEAT23 = .T.
DO WHILE REPEAT23
CLEA
@ 2,20 SAY "RECORD DELETION"
@ 3,20 SAY "======"
@ 6,10 SAY "ENTER RECORD NUMBER TO DELETE" GET MFILENO
READ
LOCATE FOR MFILENO = FILENO
IF EOF()
@14,10 SAY "INVALID FILE NUMBER"
ELSE
CLEA
@ 2,20 SAY "RECORD DELETION"
@ 3,20 SAY "======"
@ 5,3 SAY "FILE NUMBER"
@ 5,30 GET FILENO
@ 6,3 SAY "SURNAME"

```

```

@ 6,30 GET SUR_NAME
@ 7,3 SAY "FIRST NAME"
@ 7,30 GET FNAME
@ 8,3 SAY "DATE OF BIRTH"
@ 8,30 GET DAT_BIRTH
@ 9,3 SAY "STATE OF ORIGIN"
@ 9,30 GET STAORIGIN
@ 10,3 SAY "MARITAL STATUS"
@ 10,30 GET MAR_STATUS
@ 11,3 SAY "GRADE LEVEL"
@ 11,30 GET GRADELEVEL
@ 12,3 SAY "POST"
@ 12,30 GET POST
@ 13,1 SAY "QUALIFICATION"
@ 13,30 GET QUALIFICAT
@ 14,3 SAY "F_APP_DAT"
@ 14,30 GET F_APP_DAT
@ 15,3 SAY "PRE_APP_DAT"
@ 15,30 GET PRE_APPDAT
@ 16,3 SAY "SALARY"
@ 16,30 GET SALARY
@ 17,3 SAY "STUDY LEAVE"
@ 17,30 GET STU_LEAVE
@ 18,3 SAY "ANNUAL LEAVE"
@ 18,30 GET ANN_LEAVE
@ 19,3 SAY "BANK"
@ 19,30 GET BANK
* CLEAR
@ 20,25 SAY "ARE YOU SURE YOU WANT TO DELETE? (Y/N)" GET ANSW
READ
IF UPPER(ANSW) = "Y"
DELETE
PACK
ENDIF
ENDIF
@21,25 SAY "MORE DELETION (Y/N)" GET YESNO
READ
IF UPPER(YESNO) <> "Y"
STORE .F. TO REPEATZ3
CLEA
ENDIF
ENDDO
CLOSE DATABASE

SET TALK ON
SET STATUS ON

```

STAFF RECORD ADDITION FORM

=====

FILENO
SUR_NAME
FNAME
STATE OF ORIGIN
DATE OF BIRTH / /
POST
MARRITAL STATUS
SALARY 0.00
EMPLOYEE APPLICATION DATE / /
PRE_APPDAT / /
STUDY LEAVE
ANNUAL LEAVE

GRADELEVEL
QUALIFICATION
BANK

Caps

DATA AMMENDMENT FORM FOR STAFF RECORD
=====

ENTER STAFF FILE NUMBER 004

FILENO	004
SURNAME	MOH'D
FNAME	GARBA
DAT_BIRTH	12/12/67
STA_ORIGIN	NIGER
MAR_STATUS	MARRIED
GRADELEVEL	08
POST	H.T.O
QUALIFICAT	HND
F_APP_DAT	12/12/87
PRE_APP_DAT	11/06/89
SALARY	7868
STU_LEAVE	
ANN_LEAVE	21
BANK	UNION

EDIT (Y/N)

RECORD DELETION

=====

FILE NUMBER	004
SURNAME	MOH'D
FIRST NAME	GARBA
DATE OF BIRTH	12/12/67
STATE OF ORIGIN	NIGER
MARITAL STATUS	MARRIED
GRADE LEVEL	08
POST	H.T.O
QUALIFICATION	HND
F_APP_DAT	12/12/87
PRE_APP_DAT	11/06/89
SALARY	7868
STUDY LEAVE	
ANNUAL LEAVE	21
BANK	UNION

ARE YOU SURE YOU WANT TO DELETE? (Y/N)

Caps

SORTING

SSSSSSSSSSSSSSSSSSSS

1. SORT ON NAME
2. SORT ON GRADELEVEL
3. SORT ON FILENO
4. EXIT

PLEASE CHOOSE A NUMBER

0