

**INTERNAL CONTROL SYSTEM IN A COMPUTER ENVIRONMENT
(A CASE STUDY OF NIGER STATE PARASTATALS).**

By

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PGD/MCS/99/2000/931

**DEPARTMENT OF MATHEMATICS/COMPUTER SCIENCE
FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA**

SEPTEMBER, 2001

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**A PROJECT SUBMITTED TO THE DEPARTMENT OF MATHEMATICS/COM-
PUTER SCIENCE, FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA IN
PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE
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SEPTEMBER, 2001

APPROVAL PAGE

This project work has been read, certified by the undersigned as meeting the requirements of the Department of Mathematics/ Computer Science, Federal University of Technology, Minna.

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Project Supervisor

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Date

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Date

DEDICATION

This work is solely dedicated to the Glory of the Lord and to my Immediate family

I owe the Lord and my family a special gratitude for their love, Patience and concern.

ACKNOWLEDGEMENT

All Glory belongs to the Almighty God for giving me the power, strength and wisdom to pursue this academic program.

My special gratitude to my project-supervisor, Prince R. Badamosi. A gentleman of people whose love for others is highly appreciated. Indeed, his effort has, in no doubt, led to the upliftment of this work.

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well recorded and processed. This will go a long way to show accurate these records are.

Internal control system as a concept may also include everyday surveillance described as internal check. It involves the checking of day to day transaction made in the organization. This may be regarded by some as a routine system but it is actually a form of control especially where the work of one person to be vetted independently or is complementary to the work of another.

Internal Audit, which is concerned with review of records and operations is another concept to note.

COMPONENTS OF INTERNAL CONTROL SYSTEM

It should be noted that, the emphasis in internal control system is on accuracy, reliability and safeguards against errors and fraud of all business records. As such internal control system in every organization should comprise the following:

- a. Accounting Controls
- b. Administration Controls

In practice, internal control system means a continuous assessment carried on by the management itself, by means of which the work of each individual is independently checked by others as stated as one of the aspect of note in its concept.

◦ 1.3' **METHODOLOGY**

This refers to the method used in obtaining information that was used in the project. Many methods exist but the ones particularly used for the purpose of this study are;

1. Interview method
2. Record Search Method
3. Observation.

1. **INTERVIEW METHOD**

This method of eliciting information from respondents can be describe as the most common way of obtaining information on objective, constraint, allocation of duties, problems and failures in the existing system.

It involves an interpersonal or face questioning based on very well structured and objective questions by the writer.

2. RECORD SEARCHING METHOD

This method can be described as a kind of historical data collection method, and it is so described because it's a way of using past data to analyze current information gathered thereby enabling the researcher to make postulations on the topic of the study.

Record searching is very much in use obtaining or establishing quantitative information. For instance, information like frequencies, ratios, trends etc. and through these data, indications of the extent of which management objectives has been attained is established.

3. OBSERVATION

This is the third type of method used in this project work. It involves watching an operation for a period of time to see for oneself whether people being watched are doing things in conformity with what is expected.

1.4 BACKGROUND TO THE PROBLEM

Niger State parastatals were established through various edicts dating from the inception of the state in 1976 to date.

These parastatals were created to enhance productivity, efficiency, performance accountability and to eliminate the administrative bottlenecks in the bureaucratic nature of government ministries. All the parastatals created are

self accounting, their payments are not effected through the sub-treasury. This is to ease payments. As an incentive to hardwork, promotions in the parastatals are more rapid than those in the ministries.

The objectives of these parastatals are clearly stated in the various edicts establishing them. However, it is surprising to note that these parastatals have not lived up to expectations as they have failed to achieve the goals and objectives for which they were created. The problems can be said to be increasing by Geometrical progression while it may seem the parastatals tend to solve them by arithmetical progression. For example, the Rural Electrification Board was created to supply electricity to Rural areas but it is still a fact that most of the big centres of population in rural areas, and even in some Local Government Headquarters, there is no electricity even though the Generating Plants in some cases may have been installed. This is not peculiar to the Rural Electrification Board. The same could be said of other parastatals such as the Water Board, Housing Corporation and a host of others.

1.5 STATEMENT OF THE PROBLEM

These parastatals in Niger State have not been able to achieve their goals and objectives because of the ineffective and inefficient system of internal control operated by them.

These inefficiencies in the parastatals might be due to one more of the following weaknesses identified in their systems of internal control.

- (i) Inadequacy systems of internal regulations for operations of the parastatals. Some of the legal and establishment regulations and authorities used to operate the affairs of the Board have become archaic and inadequate.
- (ii) Lack of qualified personnel. Inadequacy of staffing at all levels possessing the ability, training and experience required to satisfactorily perform their duties.
- (iii) The lack of fund in some cases, weak corporate planning and control including budgeting, monitoring and reporting.
- (iv) The subservient position of the internal audit in the organization hierarchy. Lack of an effective and professional internal audit capability independent, to the extent possible and feasible, of the operations examined.
- (v) Lack of manual for both Accountant and Internal Auditors.
- (vi) An inadequate system for authorizing transactions and operations, and sound procedures for recording their results in financial terms.
- (vii) Lack of sound business practices in carrying out the functions and duties of each unit and person within the organization.

1.7 LIMITATION OF STUDY

- (1) There is a shortage of available literature in the area of Internal Control in Government owned Parastatals.
- (2) The time limit is a major Constraint
- (3) Public Servants are secretive and too bureaucratic in the release of Information.

CHAPTER TWO

LITERATURE REVIEW

2.1 ORIGIN AND PURPOSE OF INTERNAL CONTROL

The concept of internal originated during the early 1900s. it was originally called "internal check" and referred to the separation of functions among two or more persons in such a way that the work of one served as a check or verification on the work of another. Professional auditing literature began to recognize the auditor's review and evaluation of internal control as indispensable to modern selective auditing around the middle of this country.

This concept was incorporated into the generally accepted Auditing standard which requires a proper study and evaluation of existing internal control as a basis for reliance thereon and for the determination of the resultant extent of tests to be performed by the auditors.

Formerly, business systems were usually installed with the object of getting work done by the cheapest and quickest methods available but while these objects have not been lost sight of, it has been realized that the establishment of piecemeal methods of uncoordinated work processes is ultimately neither cheap nor efficient.

In recent years increasing attention has been paid to the methods of internal control. Not only the complexity of modern business techniques but also the increased size of business units have encouraged the adoption of

methods which, whilst increasing the efficiency of the business, also act to protect the assets of the enterprise and also as safeguards against error or fraud. Furthermore, the regulation of business activities under an efficient system of internal control may enhance the adoption of a systems audit approach by external auditors, with beneficial results for all parties concerned.

2.2 WHAT IS INTERNAL CONTROL?

The recommendations of the VIII International Congress of Supreme Audit Institution held in Madrid, Spain in 1974 defined Internal control in the following terms:-

“Internal Control is defined as the Organization plan and co-ordinated group of measures and procedures established and applied within an agency in order to safeguard its resources, ascertain the accuracy and degree of reliability of its financial and management information, promote efficiency in its activities, stimulate compliance with prescribed policies and achieve preestablished aims and objectives”

The above definition was later ratified and accepted by the Latin American Institute of Auditing Sciences in 1977.

The Institute of Chartered Accountants of England and Wales in its statement on Auditing also defines internal control as “not only internal check and internal audit but the whole system of controls, financial and otherwise,

established by the management in order to carry on the business of the enterprises in an orderly and efficient manner, ensure adherence to management policies, safeguard the assets and secure as far as possible the completeness and accuracy of the records”.

Internal control includes such accounting procedures as the regular verification of control accounts for purchases, sales and stock with the supporting detailed ledger accounts; periodic trial balance; numbering and accounting for documents such as goods received notes and sales invoices, verification of records evidence from outside sources or by physical verification (e.g bank balances reconciled with Bank statements; comparison of books with physical counts) and other procedures which are designed to ensure an accounts and suitable recording of the company's transaction. In addition to these accounting procedures, such matters as the adequate segregation of duties between departments, sections, individuals, or frequent independent checks of one person's work by another, which are designed to deter or diselese defalcations or other irregularities, all constitute elements in the internal control procedure:

From the above definitions and explanations the main objectives of internal control can be identified as being.

(a) To provide reliable data since management most have accurate information in carrying out its operations and making decisions.

(b) To safeguard Assets and records against misuse, destruction and theft.

(c) To promote operational efficiency: prevent unnecessary duplication of effort; protect against waste in all aspects of the business and discourage other types of inefficient use of resources.

(d) To encourage adherence to prescribed policies and procedures.

Due to the importance of the internal control system there is a need to ensure that the system is a sound and effective one. To be effective, there are some basic elements it must pass or some basic principles guiding it. These elements or principles are directly related to the internal control objectives, and they are the way a company satisfies the objectives mentioned above. They are as follows.

(1) There must be competent, trustworthy personnel with clear lines of authority and responsibility. This requires a clearly defined organisation chart and in the most important element since honest, efficient people are able to perform at a high level where there are few other controls to support them. On the other hand if the other controls are strong, incompetent or dishonest people can reduce the system to shambles i.e management overriding the controls which it has set up. Also, specific responsibility for performance must be assigned to specific individuals if the system is to operate effectively and work is to be performed properly. Precise instructions should be laid down for the

rearrangement of delegation of duties in the event of members of staff being absent.

(2) Adequate segregation of duties is essential to internal control. The following are four general types of segregation of duties for the prevention of both intentional and unintentional errors: separation of custody of assets from accounting; separation of authorization of transaction from the custody of accounting function; and separation of operational responsibility from record keeping responsibility. Generally the overall organization structure of an organization must provide proper segregation of duties, if it is to promote operational efficiency and effective communication.

(3) There must be proper procedures for authorization. Every transaction must be properly authorized "because the acquiring or expending of assets at will by any person in the organization will eventually result in a complete chaos" Authorization can be either general or specific depending on whether the job is a routine one or not.

(4) Adequate documents and records must be kept. Documents and records are the physical objects upon which transactions are entered and summarized. They include such items as sales invoices, purchase orders, subsidiary ledgers and sales Journals. Documents perform the function of transaction and between different organizations. The documents must therefore different organizations. The documents must therefore be adequate to provide reasonable assurance

that all assets are properly controlled and all transactions are correctly recorded “records and forms should be as simple as possible and properly designed for the purpose for which they are being used. This reduces the possibilities of error”.

(5) There must be physical control over assets and records. The most important type of protective measure for safeguarding assets and records is the use of physical precautions. This includes the use of storerooms for inventory to guard against pilferage and putting the storerooms under the control of a competent employee. Also the use of fire safes for currency and securities and other records is very necessary.

(6) Finally there must be Independent Checks on performance: This involves internal checks and internal checks and internal auditing.

An adequate system of internal control is important for organizations of all sizes. If there are inadequate controls the likelihood of fraud or errors in records is enhanced. This need for internal control notwithstanding, it is also necessary to consider the cost benefit analysis of any internal control system must be judged in the light of expected benefits. This is true in that the task is that of designing a cost effective tool that will help achieve efficient operations and reduce temptation and not the total prevention of fraud or the implementation of operating perfection. To this effect Hongren, states that: “no framework for internal control is perfect in the sense that it can prevent some

shrewd individual from beating the system either by outright embezzlement or by producing inaccurate records”.

2.3 LIMITATIONS ON THE EFFECTIVENESS OF INTERNAL CONTROL

No internal control system, however elaborate, can by itself guarantee efficient administration and the completeness and accuracy of the records; nor can it be proof against fraudulent collusion, especially on the part of those holding positions of authority or trust. Internal controls depending on segregation of duties can be avoided by collusion. Authorization controls can be abused by the person in whom the authority is vested. Management is frequently in a position to override controls which it has itself set up. Whilst the competence and integrity of the personnel operating the controls may be ensured by selection and training, these qualities may alter due to pressure exerted both within and without the enterprise. Human error due to errors of judgement or interpretation, misunderstanding, carelessness, fatigue or distraction may undermine the effective operation of internal controls.

2.4 PARASTATALS AND PUBLIC ENTERPRISES

Nigeria like many other less developed Countries (LDC's) of the world, has become vigorously involved in the acceleration of the wheels of economic and industrial development of her economy. She has become so actively

involved in the establishment of public enterprises and state owned or Government owned businesses covering a large complex spectrum of public utilities, infrastructural facilities, strategic enterprises, industries and commerce.

One of the ways by which Nigerian Governments attempt to remain on the commanding heights of the economy is by the establishment of parastatals and public enterprises. Public enterprises in Nigeria may be legally classified as:-

- (a) Government departments,
- (b) Government companies, registered under the companies Act
- (c) Statutory corporations established by legislation.

The parastatals fall within the last classification

2.5 WHAT ARE PARASTATALS?

Parastatals could be defined as government owned organisations established by legislation and used as significant instruments by government to achieve the objectives of their economic policy.

Until October 1960, Nigeria was a colonial territory whose politics, government, economy and indeed businesses were dominated and controlled by the British. The control of business was through the agencies of Goldies' Company which started in 1886 and which was later granted a charter of administration as Royal Niger Company. This company is still operating in

Nigeria under the name "United African Company of Nigeria Limited (U.A.C Ltd.)"

To push the Nigerian economy into progressive pace, the federal government embarked on National Development Plans. The first was 1962-68 plan which had its long term objective as self sufficiency in economic growth. The second plan (1970-74) aimed at faster economic growth, national political autonomy and greater social equity. The third (1975-80) was an amplification of the second plan, its objective being to increase real income, reduce unemployment, balance the development of the regions and increase participation by citizens in the ownership and management of productive enterprise. The fourth plan (1980-85), embraced the objectives of the third plan, but went further to emphasize the development of technology, increased productivity and promotion of new and better attitudes to work. These objectives have not been fully realised over the years. One reason for this has been the poor level of investment from the private which has arisen from the general inadequacy of capital within the national economy. The consequence has been that the responsibility for economic development has devolved upon the Federal Government which has controlled the revenue accruing from the major sources of government income-the oil, in recent years.

In the economy of the eighties, there are at least, twenty governments in Nigeria which can and have set up agencies designed to achieve state

objectives. Governments have set up wholly or substantially government owned businesses to provide the Goods and services which the private sector has provided inadequately, or has not been able to provide for reason of lack of investible capital or for heavy risks involved in such investments. Such government enterprises are corporation or companies. Some of the activities of such enterprises are infrastructural and strategic, in which case, they may be assessed mainly from the efficiency point of view. Others are companies in which governments have expressed privatization and profitability intents, in which case their performance could be evaluated from the profitability point of view as for private limited companies.

2.6 ORGANISATIONAL STRUCTURE OF THE PARASTATALS

The parastatals in Niger State have similar patterns of organizational charts. To draw up an organizational chart is a relatively simple operation but to ensure that the principles of good organization are followed is an entirely different and more difficult matter.

The position at the topmost level of the organization is occupied by the chairman and Board of Directors. They have the highest authority in the parastatal. The Board of Directors is generally appointed by and answerable to the Governor. The Board is to manage the enterprise within established objectives. The composition of the Board includes one political appointee from

each of the nine Local government area of the State. The Effectiveness of these Boards also varies. Some of them delegate most of their power and authority to a management committee whereas others appear to exert rigid control over even minor decisions.

At the next level is the General Manager who is the Chief Executive of the parastatal. He is appointed by the Governor but answerable to the Board of Director. He oversees the day operations of the parastatal and is directly responsible for the implementation of the parastatal's operational and management policies.

The level below the General Manager Consist of Divisional Heads i.e the secretary and chief engineers. The secretary is appointed by the Governor but answerable to the General manager.

Every other staff within the parastatal with the exception of the General Manager and the secretary is appointed by the Establishment Committee within the parastatal which is normally chaired by the General Manager subject to the approval of the Board i.e All Appointments of Senior staff are sent to be Board for ratification.

The Divisional Head controls the departments/ section under them. For example, under the secretary there are: the Administration/Personnel and Accounts, the personnel departments being headed by an Administrative officer

and the accounts Department by an Accountant. The accounts department will have other sub-sections including stores for instance.

Chief Engineer will have other Engineers such as the Principal Engineers, Senior Engineers etc and also Area Managers who are mainly Technicians under him.

CHAPTER THREE

2.0 SYSTEM ANALYSIS AND DESIGN

INTRODUCTION

System Analysis and Design involves investigation and understanding of the work methods and procedures used in an organisation with the view of making better recommendation on how to improve on the current situation and or bring in view new better methods.

In this study, System Analysis and design will include the examination of possible and easy way of changing internal control system into a computerized one and how to employ other facilities in ensuring a good accounting control.

3.1 EXISTING CONTROLS IN THE PARASTALS

PURPOSE OF INTERNAL AUDIT

The objective of internal audit in the parastatals is to supply unabised information on the activities of all departments, including the accounts to the management of the concern. They are to help the management with material information derived from a scrutiny of the activities of the different departments so that they may take suitable administrative and policy decisions in time to reach the goal or the target already set for achievement.

3.2 WHAT IS INTERNAL AUDIT ?

Internal audit has been defined as “a review of operations and records, sometimes continuous, undertaken within a business by specially assigned staff” Internal audit constitutes an element of internal control system established by management. The audit department may form a particularly valuable tool when properly used by management. Where there is an internal audit department, this may form a valuable part of the whole system of internal control, and according to its efficacy or otherwise may influence considerably the conduct of the audit effectiveness with which he carries out his functions.

3.3 INTERNAL CHECK AND CONTROL

This forms a valuable part of internal control and is an integral part of the duties of internal auditors. Internal check may be defined as “the allocation of authority and work in such a manner as to afford check on the routine transactions of day-to-day work by means of the work of one person being proved independently by another or the work of one person being complimentary to that of another”, so providing a means whereby fraud is prevented or its early detection is facilitated.

The conduct of the External Audit involves a continuous appraisal of internal check because it is necessary that the External auditor determine the

extent to which reliance may be placed upon the parastatal data, and how much detailed verification is necessary.

This is further illustrated by the Canadian comment from the judgement in the case of *Mc Bride V. Rooke and Thomas*.

“Apart from his legal duties, it appears that the day of the auditor on commencing his duties with any client is to formalize himself with the system of bookkeeping conducted by his client. The auditor should ascertain whether the bookkeeping operates as an internal check, ether it is so intended to operate, and if it is intend to operate... then the extent and thoroughness of that internal check. The auditor having ascertained where the internal check, if any, ends, should begin his audit from that point on. If there were no internal check, he should have to commerce his work from the earliest point, perhaps the cash register. If an efficient internal check carries on further, the audit should begin where that ends”

The present system of internal check operational in the parastatals are not faithfully carried out and secondly the system has become so inadequate that there are several loopholes for fraud and errors.

3.4 INTERNAL CONTROL SYSTEM IN COMPUTER ENVIRONMENT

This is the formal basis of this study. Computer environment describes an organizational system where computer is formally used in data processing, that is, all information processed are automated as much as possible.

A computer can be defined as an electronic device that accepts data as input, processes it according to specified instructions and brings out an output. Any system where computers are in use is said to be an Electronic Data Processing Environment.

The Principle of Internal Control System control system does not change when it is conducted in an Electronic data processing Environment, except that the environment differs i.e. in methods of data processing and storage of information.

However, contrary to manual processes being supported by paper documents like approval, vouchers, invoices and records of accountability such as inventory records, documents in computer system exist only in machine-readable form i.e. in standard format. The use of paper is very minimal and data in standard format cannot be read or modified without the use of computer. And as an aspect of note to accounting personnel and auditors, all information should be complete and easily accessible. It will be every necessary hence, to have personnel that are knowledgeable in the use of computer even External Auditors are not left out.

A computer environment requires the presence of the following elements.

- The hardware- e.g. Monitor, Keyboard, Central Processing unit etc.
- The Software- Application packages, programming etc.
- The Staff

3.5 FEASIBILITY

The essence of a feasibility study is to find out how the solution being proffered will fit in and how workable it will be in the new environment. Feasibility Study is very necessary because it helps to prevent wasting time, efforts and other resources.

3.6 ANALYSIS OF EXISTING SYSTEM

In Studying the already existing system, it was discovered that computer is partially use in processing only highly sensitive information and the use of manual method is predominantly in use. Manual method, however has the following defects,

1. It does not allow for easy and quick gathering of information.
2. Inability to ensure confidentiality of the accounting records.
3. There is no clear or well defined line in authorization and performance of duties.
4. Errors and omission may occur in manual methods and this may lead to inbalance in the final accounts.
5. Inability of the system to subject itself to modern day audit procedures.

In view of the above disadvantages in the use of manual methods, computerization holds the following advantages, this therefore answers the question why it is necessary to change;

1: INPUT

The type of inputs will be influenced greatly by the needs of output e.g. the necessity for quick response from the system would determine the need for an on-line type of input.

Consideration:-

- a. Data collection method and validation
- b. Types of input media available
- c. Volumes of input documents
- d. Design of input layouts.

2. OUTPUT

It is necessary to consider what is required from the system before deciding how to set about producing it. These requirements will have become clear as the project progressed. The analyst will need to consider

- a. Forms
- b. Types
- c. Volume and frequency of reports and documents
- d. Choice of the output media.

1. The system has been proved to the satisfaction of the system analyst and other implementation activities has been completed.
2. Users, Manager are satisfied with the results of the system test, staff training and reference manuals.
3. The targets data for changeover is due.

The changeover may be achieved in a number of ways. The most common methods are Direct, Parallel Running, Pilot Running and Staged Changeover

DIRECT CHANGEOVER

This means processing current data by both the old new in one move. It is a bold move, which should be undertaken only when everyone concerned has confidence in the new system. When a direct changeover is planned, system tests and training should be comprehensive, and the changeover itself planned in detail. This method is potentially the least expensive but the most risky.

For security reason, the old system may be held in abeyance, including people and equipment. In the event of a major failure of the new system the organization would revert to the old system.

PARALLEL RUNNING

This means processing current data both the old the new system to cross check the results.

The main advantage lies in the fact that, it allows for the old system to be kept alive and operational until the new system has been proved for one system. It allows the result of the new system to be compared with the old system before acceptance by the user, thereby promoting user confidence.

It however, has the disadvantage of extra cost, the difficulty and (sometimes) the impracticability, of user staff having to carry out the different clerical operations for two systems (old and new) on the time available for one.

PILOT RUNNING

This is similar in concept to parallel running data from one or more previous periods for the whole or part of the system is run on the new system after results have been obtained from the old system, and the new results are compared with the old. It is not as disruptive as parallel operation, since timing is less critical. This method is more like an extended system, test, but it may be considered a more practicable form of changeover for organizational reasons.

2 *Economic Feasibility*

Change generally is accompanied with cost to be expended whether physical or otherwise, hence, the costs and benefit analysis of the program needs to be embarked upon.

BENEFITS

The following underlisted benefits accrues to the organization if it takes to the new program.

1. Data Security: All database will be well secured as unauthorized personnel will not have access to the documents.

2. Efficiency, Effectiveness and Accuracy: In terms of quick data processing, and errors made deliberately or inadvertent will be at it minimum, because, the system will be use by more than one person, as such any deliberate act alone to marr the organization will be discovered.

Accuracy in term of reduced errors, will also go a long in aiding Audit procedures.

3. Easy Data Interaction: Authorized personnel from different department can easily access each other's data entries without necessarily leaving their desks.

4. External Auditors: Especially, those learned in Auditing procedures in an Electronic Data Processing Environment will find it easier to access all necessary documents without hindrances.

5. Saves Cost: On the long run, cost normally incurred every year on overheads will be reduced greatly e.g cost of stationeries.

Business Oriented Language in the 1950s, and many others came into focus after it, among which is DBASE. The DBASE IV version is however used as the programming language. It is the most advanced version of DBASE package, and it provides a full relational databases environment.

Dbase IV, has many helpful facilities which include;

1. It is easy to learn and get use to by trained and untrained computer personnel.
2. Data can easily be integrated using this program. I.e Many files can be across and operated upon as though they are a single file. This factor supports speed in implementation of actions.
3. There is reduction in data duplication and inconsistency.
4. There is data security, because in DBASE Environment, databases are controlled and this leads to better management and standards can easily be enforced, and this is all what this study is stressing.

4.2 FEATURES OF THE LANGUAGE CHOSEN

DBASE IV software, is an advanced version of Dbase, that provides a full relational databases environment for users. And it possess the following features;

A as much as 255 Fields in a file

2. It allows for popup Menus and Windows design.

5. Stabilizer of 100 volts
6. UPS of 100 volts
7. Laserjet printer 5L or 6L or Dot Matrix Printer
8. Stationeries like Computer Paper for processing the hardcopies of information
9. Minimum hard disk space of 4.5MB
10. The software requirements will include the written program to be use in the computer system.

4.6 PROGRAM MAINTENANCE

A well designed information system should be flexible and adaptable. Changes should be easily managed without elaborate re-programming- accommodate new changes. As such, once the system has been installed, maintenance needs to be done in order to meet new information needs .

The hardware peripherals too should be well maintained as specified in their manufacturer's manuals.

4.7 STARTING THE PROGRAM

The program was developed in Dbase IV. Dbase IV was chosen because of the record oriented structure of Dbase IV. To execute the internal control system program the user must have the Dbase IV package installed on his computer. To execute Dbase IV the user goes to the Dbase directory e.g

C:\>

C:\> CD DBASE >

C:\> DBASE \>

The type "dbase" to start the dbase IV package i.e C:\>DBASE\> dbase then Enter

On getting to the dot prompt the user can now execute the internal control system program by typing "Do control" at the dot prompt.

i.e .DO CONTROL \ Enter

The internal control system program is loaded and the main menu appears first. The main menu is then used to gain access to each part of the program.

MAIN MENU

ADD RECORDS DELETE RECORDS MODIFY RECORDS VIEW RECORDS REPORT SUMMARY EXIT

1. ADD RECORDS

The Add Records option is selected when ever the user wants to enter new set of data into the file whether an expenditure operation or an income operation. The user is provided with the opportunity to add as many records as

SUBMENU

EXPENDITURE REPORT
INCOME REPORT
BOTH REPORT

The expenditure report is a list of all operations that are related to expenses. The income report is a list of all operations that are related to income the both report is a combination of income and expenditure.

6. EXIT

The exit option also loads a submenu

EXIT MENU

TO PROMPT
TO DOS

“TO PROMPT” option is selected if the user wants to exit the program and still remain in the dbase environment. “To DOS” option closes the application and dbase itself and returns to the Dos Environment.

CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 CONCLUSION

In nearly every country there is renewed emphasis on establishing and overseeing sound systems of internal control within government entities.

Increasingly internal controls are being regarded as mechanisms to assure that policies, systems, procedures and methods produce the results expected of them. It is the responsibility of management to decide the extent of the internal control system which is appropriate to the enterprises. The nature and extents of controls will vary between enterprises and also from one part of the enterprises to another.

That although both parastatals have an internal audit department; The staff lack experience, and their effectiveness is greatly affected by lack of independence since in both cases they report directly to the Chief Executive who incidentally determines their appointment, promotion, scope, terms and responsibilities.

5.2 RECOMMENDATION

- (1) A comprehensive management information system should be implemented within each parastatals. It should be able to generate

relevant data for purpose of management performance evaluation. The internal audit department in each parastatals should be able to assist in this direction.

- (2) All phases of Internal Control System in each Parastatal should be subjected to periodic review by Internal auditors who do not ordinarily have contact with the operation under review.
- (3) A system of accounting that will best suit the parastatals, should be adopted or designed and should be made compulsory for all the parastatals to implement, so that there will be uniformity in the accounting system operated in the parastatals. The present situation where the parastatals are dangling between the accounting system of private enterprise and government procedures is not in the best interest of the parastatals.
- (4) The Introduction of refresher courses, workshops for staff, direct on the Job training, attachment courses for staff of the accounts and audit departments and also an increase in the number of staff of these departments sent on courses.
- (5) The introduction of formal corporate planning in all parastatals. Corporate plans help organizations to look intensively into the future and brings proposed changes into focus.

Finally, it is hoped that if these recommendations are given serious considerations this will in no small means help enhance greater productivity, efficiency, performance and accountability in the parastatals.

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* INTERNAL CONTROL SYSTEM

```
SET TALK OFF
SET SAFETY OFF
SET SCORE OFF
SET CONFIRM ON
SET ESCAPE ON
SET MESSAGE TO ""
SET DEVICE TO SCREEN
SET STATUS OFF
CLEA ALL
SET COLOR TO GR+, G, G
CLEAR
DO MAINBUD
ABTVAR = ''
DO WHILE ABTVAR = ''
DO DEFIN
DO MAIN
CLEAR
ENDDO
RETURN
```

```
PROCEDURE DEFIN
IF ISCOLOR()
    SET COLOR OF BOX TO GR+/BG
    SET COLOR OF NORMAL TO W+/B
    SET COLOR OF HIGHLIGHT TO GR+/BG
    SET COLOR OF MESSAGES TO W+/N
    SET COLOR OF TITLES TO W/B
    SET COLOR OF FIELDS TO N/BG
    SET COLOR OF INFORMATION TO B/W
ENDIF
```

SET BORDER TO DOUBLE

```
* SET BORDER TO DOUBLE
DEFINE POPUP MAINMENU FROM 1,25
DEFINE BAR 1 OF MAINMENU PROMPT "MAIN MENU" SKIP
DEFINE BAR 2 OF MAINMENU PROMPT "===== " SKIP
DEFINE BAR 3 OF MAINMENU PROMPT "ADD RECORD(s)";
MESSAGE "Addition of record(s) to the database file"
DEFINE BAR 4 OF MAINMENU PROMPT "DELETE RECORD(s)";
MESSAGE "This option allows deletion of record(s)"
DEFINE BAR 5 OF MAINMENU PROMPT "MODIFY RECORD(s)";
MESSAGE "This option allows modification of record(s)"
DEFINE BAR 6 OF MAINMENU PROMPT "VIEW RECORD(s) ";
MESSAGE "This option allows you to view records"
DEFINE BAR 7 OF MAINMENU PROMPT "REPORT SUMMARY";
MESSAGE "This option allows Generation of reports"
DEFINE BAR 8 OF MAINMENU PROMPT "E X I T ";
MESSAGE "You want to Shutdown"
```

* INTERNAL CONTROL SYSTEM

```
SET TALK OFF
SET SAFETY OFF
SET SCORE OFF
SET CONFIRM ON
SET ESCAPE ON
SET MESSAGE TO ""
SET DEVICE TO SCREEN
SET STATUS OFF
CLEA ALL
SET COLOR TO GR+, G, G,
CLEAR
DO MAINBUD
ABTVAR = ''
DO WHILE ABTVAR = ''
DO DEFIN
DO MAIN
CLEAR
ENDDO
RETURN
```

PROCEDURE DEFIN

IF ISCOLOR()

```
    SET COLOR OF BOX TO GR+/BG
    SET COLOR OF NORMAL TO W+/B
    SET COLOR OF HIGHLIGHT TO GR+/BG
    SET COLOR OF MESSAGES TO W+/N
    SET COLOR OF TITLES TO W/B
    SET COLOR OF FIELDS TO N/BG
    SET COLOR OF INFORMATION TO B/W
```

ENDIF

SET BORDER TO DOUBLE

* SET BORDER TO DOUBLE

```
DEFINE POPUP MAINMENU FROM 1,25
DEFINE BAR 1 OF MAINMENU PROMPT " M A I N   M E N U " SKIP
DEFINE BAR 2 OF MAINMENU PROMPT "===== " SKIP
DEFINE BAR 3 OF MAINMENU PROMPT "ADD RECORD(s)";
    MESSAGE "Addition of record(s) to the database file"
DEFINE BAR 4 OF MAINMENU PROMPT "DELETE RECORD(s)";
    MESSAGE "This option allows deletion of record(s)"
DEFINE BAR 5 OF MAINMENU PROMPT "MODIFY RECORD(s)";
    MESSAGE "This option allows modificatio of record(s)"
DEFINE BAR 6 OF MAINMENU PROMPT "VIEW RECORD(s) ";
    MESSAGE "This option allows you to view records"
DEFINE BAR 7 OF MAINMENU PROMPT "REPORT SUMMARY";
    MESSAGE "This option allows Generation of reports"
DEFINE BAR 8 OF MAINMENU PROMPT "E X I T ";
    MESSAGE "You want to Shutdown"
```

ON SELECTION POPUP MAINMENU DO MAIN_PARA

*-----> Popup for Report

DEFINE POPUP REPOM FROM 6,45

DEFINE BAR 1 OF REPOM PROMPT " R E P O R T M E N U " SKIP

DEFINE BAR 2 OF REPOM PROMPT "===== " SKIP

DEFINE BAR 3 OF REPOM PROMPT "EXPENDITURE SUMMARY";

MESSAGE "Generate report of expenditure "

DEFINE BAR 4 OF REPOM PROMPT "INCOME SUMMARY ";

MESSAGE "Generate report of income "

DEFINE BAR 5 OF REPOM PROMPT "BOTH SUMMARY ";

MESSAGE "Generate report of expenditure & income "

ON SELECTION POPUP REPOM DO REPO_PARA

*-----> Popup for Exit

DEFINE POPUP EXITM FROM 7,45

DEFINE BAR 1 OF EXITM PROMPT " E X I T M E N U " SKIP

DEFINE BAR 2 OF EXITM PROMPT "===== " SKIP

DEFINE BAR 3 OF EXITM PROMPT "EXIT TO PROMPT";

MESSAGE "Return to the Dbase Prompt"

DEFINE BAR 4 OF EXITM PROMPT "EXIT TO DOS ";

MESSAGE "Shutdown and return to DOS"

ON SELECTION POPUP EXITM DO EXIT_PARA

PROCEDURE MAINBUD

*-----> This section design the screen

DEFINE WINDOW MAINSC FROM 1,1 TO 22,78 NONE COLOR W+/B

DEFINE WINDOW WORK_IN FROM 7,5 TO 21,75 DOUBLE COLOR W+/B

ACTIVATE WINDOW MAINSC

@1,20 to 3,60 double

@2,29 say "INTERNAL CONTROL SYSTEM " COLOR W*

ACTIVATE WINDOW WORK_IN

RETURN

PROCEDURE MAIN

ACTIVATE POPUP MAINMENU

RETURN

PROCEDURE MAIN_PARA

DO CASE

CASE BAR() = 3

DO ADDREC

CASE BAR() = 4

DO DELREC

CASE BAR() = 5

DO MODREC

CASE BAR() = 6

DO VIEWREC

CASE BAR() = 7

ACTIVATE POPUP REPOM

```
    DEACTIVATE POPUP
CASE BAR() = 8
    ACTIVATE POPUP EXITM
    DEACTIVATE POPUP
ENDCASE
RETURN
```

```
PROCEDURE REPO_PARA
DO CASE
    CASE BAR() = 3
        DO REPEXP
    CASE BAR() = 4
        DO REPINC
    CASE BAR() = 5
        DO REPBOTH
ENDCASE
RETURN
```

```
PROCEDURE EXIT_PARA
DO CASE
    CASE BAR() = 3
        ABTVAR = 'Q'
        CANCEL
    CASE BAR() = 4
        QUIT
ENDCASE
RETURN
```

```
Procedure ADDREC
store 'Y' to ans
set stat off
use control
do while ans ='Y'
    clear
    store space(7) to mopernum
    @1,10 Say "Enter Operation Code: " get mopernum Pict "!!-9999"
    read
    locate all for opernum = mopernum
    if found()
        @8,20 say 'Record already exist'
    else
        store 0 to mamount
        store space (25) to mdescrip
        store space(11) to moptype
        store space (10) to mopdate
        DO GETDATA
        READ
        clear
        append blank
        replace opernum with mopernum
        replace descrip with mdescrip
```

```

    replace amount with mamount
    replace optype with moptype
    replace opdate with mopdate
endif
@10,10 to 12,50
store 'N' to ans
@11,12 say 'Are there more records? (Y/N)' get ans pict '!';
    valid ans $ 'YN' error 'Invalid entry !!!'

read
enddo
CLEAR
close databases
return

```

Procedure DELREC

```

store 'Y' to ans
use control
do while ans= 'Y'
    clea
    @2,15 to 4,55
    @3,20 say 'Deletion of record'
    store space(7) to mopernum
    @1,10 Say "Enter Operation Code: " get mopernum Pict "!!-9999"
    read
        locate all for opernum = mopernum
        if found()
            @10,10 to 12,50
            store 'N' to reply
            @11,12 say 'Are you sure? (Y/N)' get reply pict '!';
                valid reply $ 'YN' error 'Invalid entry!!!'
            read
            if reply = 'Y'
                dele
                pack
            endif
        else
            @8,20 say 'Record does not exist'
            endif
            @10,10 clea to 12,50
            @10,10 to 12,50
            store 'N' to ans
            @11,12 say 'Delete more records? (Y/N)' get ans pict '!';
            read
        enddo
CLEAR
close data
return

```

Procedure MODREC

```

use control

```

```

store 'Y' to ans
do while ans = 'Y'
  clea
  store space(7) to mopernum
  @1,10 Say "Enter Operation Code: " get mopernum Pict "!!-9999"
  read
  locate all for opernum = mopernum
  if found()
    store descrip to mdescrip
    store amount to mamount
    store optype to moptype
    store oupdate to mopdate
    DO GETDATA
    READ
    clear
    replace opernum with mopernum
    replace descrip with mdescrip
    replace amount with mamount
    replace optype with moptype
    replace oupdate with mopdate
  else
    @8,20 say 'Record does not exist'
  endif
  @10,10 to 12,50
  store 'N' to ans
  @11,12 say 'Modify more record? (Y/N)' get ans pict '!';
  valid ans $ 'Y/N' error 'Invalid entry!!!'
  read
enddo
CLEAR
close databases
return

```

Procedure VIEWREC

```

use control
store 'Y' to ans
do while ans = 'Y'
  clea
  store space(7) to mopernum
  @1,10 Say "Enter Operation Code: " get mopernum Pict "!!-9999"
  read
  locate all for opernum = mopernum
  if found()
    store descrip to mdescrip
    store amount to mamount
    store optype to moptype
    store oupdate to mopdate
  DO GETDATA
  WAIT
  clear
else
  @8,20 say 'Record does not exist'

```

```

endif
  @10,10 to 12,50
  store 'N' to ans
  @11,12 say 'View more record(s)? (Y/N)' get ans pict '!';
  valid ans $ 'Y/N' error 'Invalid entry!!!'
  read
enddo
CLEAR
close databases
return

```

Procedure REPEXP

```

define window user from 1,1 to 22,78 none color W+,B
activate window user
set stat off
set alternate to 'exp.out'
set device to screen
  set alternate on
  set space on
  DO HEADING with 1
  use control
  go top
  ct = 1
  mtot = 0
do while .not. eof().
if left(optype,1) = 'E'
  ? '|',str(ct,3),'|',opernum,'|',opdate,'|',descrip,'|',amount,'|'
  ct = ct + 1
  mtot = mtot + amount
  ? replicate('-',75)
endif
  skip
enddo
? space(54),'TOTAL = ',str(mtot,9,2)
?
set alternate off
wait
close data
deactivate window user
return

```

Procedure REPINC

```

define window user from 1,1 to 22,78 none color W+,B
activate window user
set stat off
set alternate to 'inc.out'
set device to screen
  set alternate on
  set space on
  DO HEADING with 2
  use control
  go top

```

```

    ct = 1
    mtot = 0
do while .not. eof()
if left(optype,1) = 'I'
    ? '|',str(ct,3),' | ',opernum,' | ',opdate,' | ',descrip,' | ',amount,'|'
    ct = ct + 1
    mtot = mtot + amount
    ? replicate('-',75)
endif
skip
enddo
? space(54),'TOTAL = ',str(mtot,9,2)
?
set alternate off
wait
close data
deactivate window user
return

```

Procedure REPBOTH

```

define window user from 1,1 to 22,78 none color W+,B
activate window user
set stat off
set alternate to 'both.out'
set device to screen
    set alternate on
    set space on
    DO HEADING with 3
    use control
    go top
    ct = 1
    mtot1 = 0
    mtot2 = 0
do while .not. eof()
    ? '|',str(ct,2),' | ',opernum,' | ',opdate,' | ',descrip,'|'
if left(optype,1) = 'I'
    ?? space(9),'| ',amount,'|'
    mtot1 = mtot1 + amount
else
    ?? amount,'| ',space(9),'|'
    mtot2 = mtot2 + amount
endif
    ct = ct + 1
    ? replicate('-',81)
    skip
enddo
? space(48),'TOTAL = ',str(mtot2,9,2),' ',str(mtot1,9,2)
?
set alternate off
wait
close data
deactivate window user

```

return

PROCEDURE GETDATA

CLEAR

@ 3,5 SAY "OPERATION CODE : " + Mopernum

@ 5,5 SAY "OPERATION DATE : " GET MOPDATE PICT "99/99/9999"

@ 7,5 SAY "DESCRIPTION : " GET MDESCRIP PICT "@!"

@ 9,5 SAY "EXPEND/INCOME : " GET MOPTYPE PICT "@M Expenditure,Income";

MESSAGE "Press SPACE to view options and RETURN to select"

@11,5 SAY "AMOUNT : " GET MAMOUNT PICT "@!"

RETURN

PROCEDURE HEADING

PARAMETER LL

? space(22), "*****"

? space(22), "*" INTERNAL CONTROL SYSTEM **

? space(22), "*****"

?

?

IF LL = 1

? space(27), " SUMMARY OF EXPENDITURE "

? space(27), "====="

?

? REPLICATE("=",75)

? "*" * OPERATION * OPERATION * *

? "*" S/NO * CODE * DATE * DESCRIPTION * AMOUNT **

? REPLICATE("=",75)

ELSE

IF LL = 2

? space(30), " SUMMARY OF INCOME "

? space(30), "====="

?

? REPLICATE("=",75)

? "*" * OPERATION * OPERATION * *

? "*" S/NO * CODE * DATE * DESCRIPTION * AMOUNT **

? REPLICATE("=",75)

ELSE

? space(23), " SUMMARY OF INCOME & EXPENDITURE "

? space(23), "====="

?

? REPLICATE("=",81)

? "*" * OPERATION * OPERATION * * EXPEND. * INCOME **

? "*" SN * CODE * DATE * DESCRIPTION * AMOUNT * AMOUNT **

? REPLICATE("=",81)

ENDIF

ENDIF

RETURN

 * INTERNAL CONTROL SYSTEM *

SUMMARY OF INCOME
 =====

* S/NO *	* OPERATION CODE *	* OPERATION DATE *	* DESCRIPTION *	* AMOUNT *
1	IN-1021	11/02/2001	AUCTION OF OLD FURNITURES	115506.00
2	IN-2455	22/07/2001	STAFF TAX DEDUCTION	13560.00
3	IN-4322	05/02/2001	SALES AND SUPPLY	867900.00
4	IN-3244	01/01/2001	BANK OVERDRAFT	44555.00
5	IN-2212	02/01/2001	LOANS	5343.50
6	IN-1533	03/10/2001	RATES	4455.50
7	IN-5423	01/11/2001	SUBVENTION	423332.00
				TOTAL = 1474652.00

 * INTERNAL CONTROL SYSTEM *

SUMMARY OF EXPENDITURE
 =====

* S/NO *	* OPERATION CODE *	* OPERATION DATE *	* DESCRIPTION *	* AMOUNT *		
=====						
1	EX-1001	10/02/2001	PURCHASE OF PHOTOCOPIER	120000.00		
2	EX-2300	21/07/2001	PAYMENT OF SALARIES	245000.00		
3	EX-2339	30/12/2001	PURCHASE OF VEHICLE	210000.00		
4	EX-2900	04/02/2001	PURCHASE OF STATIONERIES	46020.00		
				TOTAL =	621020.00	

□

INTERNAL CONTROL SYSTEM *

SUMMARY OF INCOME & EXPENDITURE

=====

* SN *	* OPERATION CODE *	* OPERATION DATE *	* DESCRIPTION *	* EXPEND. AMOUNT *	* INCOME AMOUNT *	*
=====						
1	EX-1001	10/02/2001	PURCHASE OF PHOTOCOPIER	120000.00		
2	IN-1021	11/02/2001	AUCTION OF OLD FURNITURES		115506.00	
3	EX-2300	21/07/2001	PAYMENT OF SALARIES	245000.00		
4	IN-2455	22/07/2001	STAFF TAX DEDUCTION		13560.00	
5	EX-2339	30/12/2001	PURCHASE OF VEHICLE	210000.00		
6	EX-2900	04/02/2001	PURCHASE OF STATIONERIES	46020.00		
7	IN-4322	05/02/2001	SALES AND SUPPLY		867900.00	
8	IN-3244	01/01/2001	BANK OVERDRAFT		44555.00	
9	IN-2212	02/01/2001	LOANS		5343.50	
10	IN-1533	03/10/2001	RATES		4455.50	
11	IN-5423	01/11/2001	SUBVENTION		423332.00	
				TOTAL =	621020.00	1474652.00