THE EVALUATION OF THE INTERNAL CONTROL SYSTEM OF THE ACCOUNTING UNIT OF AHMADU BELLO UNIVERSITY ZARIA

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A THESIS SUBMITTED TO POSTGRADUATE SCHOOL, AHMADU BELLO UNIVERSITY ZARIA, NIGERIA IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF EDUCATION (M.ED) IN BUSINESS EDUCATION - ACCOUNTING

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D E C L A R A T I O N

I hereby declare that this thesis has been written by me in the Department of Vocational and Technical Education, Ahmadu Bello University, Zaria, and it is a record of my own research work. It has not been presented in any previous application for a higher degree. All quotations and sources of information as contained in this thesis are duly acknowledged by means of the given references.

Attah Daniel Akpan-Edem

C E R T I F I C A T I O N

This thesis entitled "THE EVALUATION OF THE INTERNAL CONTROL SYSTEM OF THE ACCOUNTING UNIT OF AHMADU BELLO UNIVERSITY, ZARIA" by Attah D. Akpan-Edem meets the regulations governing the award of the degree of Master of Education (M.Ed.) in Business Education (Accounting) of the Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

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D E D I C A T I O N

This thesis is dedicated to God Almighty for His mercy, guidance and protection; and to my beloved children:

Iniobong Attah Daniel

God'swill Attah Daniel

Emmanuel Attah Daniel

Nkpoikana-Abasi Attah Daniel

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A B S T R A C T

Internal control system is a technique used by management of an organisation to enhance effective operations for the achievement of organisational goals.

This study was carried out to ascertain the degree of effectiveness of control measures adopted in the university and its attendant effect on audit. The study evaluates the internal control system applied in five areas of financial operations usually affected by audit. These include cash, payroll, sales, purchases and inventory.

Five research questions and five null hypotheses were formulated for the study based on the five areas of financial operations. The population for the study consisted of 130 members of staff of bursary and audit department of Ahmadu Bello University only since the research was a case study. Of this population a sample of 90 bursary staff and 10 audit staff was drawn.

Data were obtained through observation, interview and administration of questionnaire to the staffers involved. The data collected were analysed by using frequency count, correlation co-efficient statistics and T-test. The hypotheses were tested at 0.05 significant level. The result indicated positive correlation between effectiveness of internal control system and efficiency of audit. Of the five areas delineated for the study, cash and payroll control

system showed statistically significant relationship between effectiveness of their control system and the efficiency of their audit, while sales, purchases, and inventory control system indicated no statistically significant relationship between effectiveness of their control system and the efficiency of their audit.

Based on findings, recommendations were made for the enhancement of internal control system of the five areas of financial operation studied. These include the introduction of in-house training for staff, rotation of staff on cash duties by the Bursar, etc. Suggestions were offered for further studies especially in the area of Administrative Control.

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ABBREVIATIONS

A.I.C.P.A.	-	American Institute of Certified Public Accountants.
C.A.M.D.	-	Companies and Allied Matters Decree 1990.
G.A.A.P.	-	General Accepted Accounting Principles
G.A.A.S.	-	General Accepted Audit Standard.
I.C.A.E. & W.	-	Institute of Chartered Accountants of England and Wales.
I.C.A.N.	-	Institute of Chartered Accountants of Nigeria.

DEFINITION OF TERMS

The following terms used in this study are defined into the context of the study:

Accounting:

The process of identifying, classifying, recording, summarising and interpreting business transaction and events of money worth (Gillespie, 1962).

Audit:

An examination or investigation by independent practicing accountant (auditor) or a set of financial statements and accounting records and other supporting evidence both within and outside the clients business to enhance expression of opinion (Millichamp, 1987).

Fraud:

Misrepresentation by a person of a material fact known by that person to be untrue or made with reckless indifference as to whether the fact is true, with intention to deceive and with the result that another party is injured (Meigs, et. al. 1982).

Internal Control System:

The plan of organisation and all coordinate methods and measures adopted within the organisation to safeguard its assets, check accuracy and reliability of its accounting data, promote operational efficiency and encourage adherence to prescribed managerial policies (John and Jaenicke, 1980).

Chapter 1

INTRODUCTION

1.1 Background to the Study

The system of getting things done in an acceptable manner has been man's yearning from time. Different organisations adopt different methods to stem the tide of malpractices which constitute the source of wastage especially in the area of finance. Laid down policies by management are flouted by subordinates, this becomes a source of concern to the management. The attitude of flouting instruction by these subordinates if not checked usually disrupt the entire operation of the organisation. In certain organisations, especially government owned, embezzlement of funds is complained about (Madaki, 1986) and sharp practices are noticed in private business.

Due to incessant complaints about unnecessary wastage in organisations Happer (1977) suggested strict control over all areas of operation of an organisation that is why today most management usually device means to exercise control over cash, payroll, sales purchases and inventory where huge amount is expended. The methods of control adopted become peculiar to the organisation using it depending on size, organisational structure, nature of operations and objectives of the organisation to which the system is designed (Meigs Whithington Meigs, 1982).

The responsibility of establishing efficient and effective internal control system for the prevention of fraud and irregularities rest squarely on the shoulder of the management of the organisation.

Archibong (1993) stated that prevention of fraud, error, and comparable irregularities lies within the province of management supervision and other internal control. Management cannot validly rely on audit functions as a substitute for internal control and to attempt this will be an abrogation of the management's most important responsibility. Any organisation with effective and efficient internal control system will d[illegible]over that the value of internal control system in detering e[illegible]rors, fraud and wastage is undoubtedly greater than its value [illegible] detecting them (Black, Champion and Miller, 1973).

It can then be argued that auditing is a logical appendage of the pr[illegible]of accountability in business through the deterrent effect, [illegible]e detection of existing malpractices, errors and fraudule[illegible] practices and tendencies (Afoakwa, 1993).

The importance of internal control for audit purposes would be appreciated most in an organisation like the Ahmadu Bello University, Zaria where activities are spread over different locations within and outside Zaria.

1.2 Statement of Problem

The basic function of internal control system is to see that safety of assets is guaranteed, wastage is minimized and fraud is prevented (Maigs, 1982). The structure of the organisation is to provide checks and balances. This organisational structure aims at providing satisfactory services to the public and handsome reward to the investors. Proper co-ordination of activities of the organisation to achieve the organisational goals becomes paramount to the management.

Auditors are even appointed to monitor and ensure that plans and policies are implemented so that the aims and objectives of the organisation can be achieved. Where deviation from procedures and policies is observed, the necessary and timely correction is made accordingly. This help to put the organisation back on course for its aims and objectives to be achieved.

But in government establishments, according to Waziri (1991) there is lack of good system of financial monitoring and control. This gives room for embezzlement and fraud to be committed, thereby depriving the government the necessary funds needed for providing social services to the public. In the same vein Madaki (1986) complained of theft of government funds by government workers and blamed it on the lack of job security. Ayeni (1995) reported of improper practices in the bursary department of Ahmadu Bello University, while Kokoh

(1995) asserted that there is willful damage and theft of plants, equipment and materials in the establishment. These do not augur well with the economy, but bring untold hardship to the generality of the citizenry. The auditors are forced to go into greater amount of detailed work than would otherwise be the case. This give rise to long period of audit exercise and exorbitant audit expenses.

A situation where government establishments are bedeviled with issues of malpractices that create hardship to the citizenry makes one to begin to wonder whether there is no form of internal control system that can stem the tide of some of the malpractices. This makes it pertinent that studies be carried out on internal control system of government establishments to find out whether the internal control system of government organisations is effective or not.

This study therefore focuses on Ahmadu Bello University, Zaria, as one of the government establishments, to evaluate the internal control system of the establishment and its attendant effects on audit exercise so as to proffer solution in areas that require it

1.3 Research Questions

The study was carried out to provide answers to the following research questions:

1. To what extent are the procedures and policies of cash control system observed to enhance efficient

cash audit?

2. Are the Payroll Control procedures and policies observed according to specification so that efficient payroll audit can be achieved?
3. To what extent are the Sales Control procedures and policies complied with in order to enhance efficient sales audit?
4. Are there strict compliance to procurement/purchases procedures and policies to warrant auditors reliance on the purchases control system?
5. Are the policies and procedures of inventory control system strictly adhered to for efficient inventory audit?

1.4 Null Hypotheses

The following null hypotheses were formulated for the study:

$H_0 1$ There is no significant relationship between the effectiveness of cash control system and the efficiency of cash audit;

$H_0 2$ There is no significant relationship between the effectiveness of payroll control system and the efficiency of payroll audit;

$H_0 3$ There is no significant relationship between the effectiveness of sales control system and

the efficiency of sales audit;

$H_0$4 There is no significant relationship between the effectiveness of purchases control system and the efficiency of purchases audit;

$H_0$5 There is no significant relationship between the effectiveness of inventory control system and the efficiency of inventory audit;

1.5 The Objectives of the Study

The objectives of the study were:

i) to ascertain the extent of accounting record kept on financial operations of the organisation;

ii) to determine the extent to which cash transactions policies and procedures are compiled with;

iii) to appraise the soundness and adequacy of application of accounting, financial and other operational controls of payroll system;

iv) to determine the extent of compliance to policies and procedures of sales of unserviceable stores;

v) to ascertain the extent to which procurement procedures and policies are adhered to in procuring the materials required by the organisation;

vi) to determine whether the procedures of safeguarding and accounting for inventory are adequately complied with.

1.6 Significance of the Study

This study is significant in the sense that the result from the evaluation of the internal control system will form an important part of management information and the basis of feedback mechanism to auditors.

The information gained from the study will help auditors to strengthen surveillance on weak aspects of internal control system of the organisation.

The study will reveal the level of commitment of staff to internal control and the need for review of the existing internal control system to eliminate the aspect of lack of control.

This study will be a resource material for students, teachers, accountants, auditors and entrepreneurs for use in acquiring the basic knowledge of internal control principles.

Generally, the present economic situation requires effective control of meagre resources, both in public and private sector of the economy, hence the managers of different organisations will benefit from the study since steps to curb wastage in a system will be pin-pointed.

In research perspective, the study will ginger further study about other organisations' internal control system.

1.7 Basic Assumptions

The study was based on assumptions that:

i) There is a form of internal control system on financial operations of the university which is subject to audit;

ii) The management of the university might not be aware of the fact that an effective and efficient internal control system can reduce the time spent on auditing hence reducing the audit expenses;

iii) The management might not be aware of the relationship existing between internal control system of cash, payroll, sales, purchases and inventory, and the audit exercise of same.

1.8 Delimitation

The study is focused on Ahmadu Bello University from other similar institutions since it is believed to be versatile with wide accounting operations.

The study looked into the financial operations of the main campus of the university and did not however include other campuses.

The study concentrated on the extent of implementation of internal control system and its adequacy in controlling financial operations.

Five (5) areas of financial operations which are usually affected by audit were studied. These were cash, payroll, sales, purchases and inventory.

1.9 Limitations

As usual with researches involving case study of government establishment in Nigeria, the issue of confidentiality and secrecy together with inherent fear in some quarters hindered the free access to some relevant documents.

Delay in returning the questionnaire was also experienced by the researcher, and this militated against the speedy completion of this work.

Other limitations include academic assignments which competed for the time to be used in completing this work. Short supply of finance required for this research created a serious bottleneck for the timely completion of this research.

Chapter 2

Review of Related Literature

2.1 Introduction

The basis of internal control has been necessitated by the complexity of an organisation. Due to this complexity the management of the organisation is distanced from every minute operations which are required for the achievement of the organisational goals and objectives.

Management has therefore recognised internal control system as a valuable tool in effectively carrying out its responsibilities while auditors pressed for the improvement on internal control as it enhances efficient audit work. The credibility of accounting records of organisation and the time spent on auditing depends largely on the effectiveness and efficiency of internal control system.

General Accepted Audit Standard (GAAS) requires the Auditor to make a proper study and evaluation of the client's system of internal control, so as to determine the detailed audit work to be involved. In other words, there must be internal control diagnosis which is a logical investigation or analysis of a situation in order to determine the opportunities for performance improvement (Walley, 1974).

In reviewing the related literature the researcher focused attention on the following subheads:

i. Internal control system - an overview;

ii. Accounting control approach to financial operations;

iii. Approaching auditing;

iv. Audit approach to financial operations;

v. The relationship between internal control system and audit;

vi. Similar studies; and

vii. Summary.

2.2 Internal Control System - An Overview

The concept of internal control gained prominence of recent due to complexity and diversification of organisations. Different views have been expressed on what internal control is all about. Meigs et. al. (1982) asserted that:

> The system of internal control consists of all measures employed by an organisation to (1) safeguard assets from waste, fraud, and inefficient use, (2) promote accuracy and reliability in the accounting records (3) encourage and measure compliance with company policies, and (4) evaluate the efficiency of operations. In short internal control consists of all measures taken to provide management with assurance that everything is functioning as it should.

Meigs et. al. (1982) went on to expatiate on the nature of internal control by saying that:

> Internal Control extends beyond the account and financial functions; its scope is company wide and touches all activities of the organisation. It includes the method by which top management delegate authority and assigns responsibility for such functions as selling, purchases, accounting and production. Internal control also includes the programme for preparing, verifying, and

> distribution to various level of supervision those current reports and analyses that enable executives to maintain control over the variety of activities and functions that constitutes a large corporate enterprise. The use of budgetary techniques, production standards, inspection laboratories, time and motion studies, and employees training programmes involve engineers and many other technicians far remove from accounting and financial activities, yet all of those devices are part of the mechanism now conceived as the system of internal control.

The Institute of Chartered Accountants of England and Wales defines Internal Control in Howward (1972) as:

> Not only internal check or internal audit but the whole system of controls. Financial and otherwise, established by the management in order to carry on the business of the company in an orderly manner, safeguard its assets and secure as far as possible the accuracy and reliability of its record.

In sheding more light on the concept of Internal Control, the American Institute of Certified Public Accountants (AICPA) in its Statement of Audit Standard (SAS) No.1 as cited by Johnson and Jaenickle (1980) said:

> Internal Control comprises the plan of organisation and all the coordinate methods and measures adopted within a business to safeguard its assets, check the accuracy and reliability of its accounting data, promote operational efficiency and encourage adherence to prescribed managerial policies.

Black et. al. (1973) described internal control as:

> A system consisting of all measures employed by a business to (1) safeguard its resources against waste, fraud and inefficiency (2) promote accuracy (3) encourage and measure compliance with company policy, and (4) judge the efficiency of operations of the responsibility centre of the business.

The obvious about the definitions is the all embracing nature. It is therefore clear that Internal Control is the process of

curbing waste and material errors and checking compliance to procedural approach to management policies, and is concerned with controls in every aspect of corporate operations as well as the way in which individual control units is inter-related. Without controls, the value of any planning is questionable (Austin and Check, 1979).

The emphasis on internal control by management, and auditors has been recognised in the professional literature of Accounting for several years. The American Institute of Certified Public Accountants (AICPA) in its publication in 1974 enumerated certain factors contributing to the growing importance of internal control. These include the fact that:

i. the scope and size of business entity has become so complex and wide-spread that management must rely on numerous reports and analyses to control operations effectively;

ii. the check and review inherent in a good system of internal control afford protection against human weaknesses and reduce the possibility that errors and irregularities will occur;

iii. it is impracticable for auditors to make audits of most companies within economic fee limitation without relying on the client's system of Internal Control;

iv. A new dimension that added impetus to internal control was the promulgation of the Foreign

Corrupt Practices Act of 1977 by the American Congress (Helmkamp et. al. 1986);

v. As internal Control is mainly concerned with taking action within the organisation in order to regulate and direct activities that guard against waste and inefficient use of assets, it is therefore believed that internal control assist in maximizing return on investment.

The system of internal control is important for prevention and early detection of error, embezzlement and fraud. And the effective way of preserving internal control is for the members of the management team to remain alert to the problem and make regular tests and investigations of those phases of the system that relate to their immediate operating area. Formerly the usual way to cope with the problems was through regular audit but today Internal Control becomes more recognised as being a better option because of its earlier disclosure of errors and fraud as well as being less costly and is continuous, to ensure that firm's activities conform with its plans (Glautier, 1976).

Any internal control system seek to achieve the following objectives:

i. To ensure that the operations of the organisation is carried on in an orderly, efficient and economic manner;

ii. To ensure that whatever policies the management has decided to follow at any point in time are strictly adhered to by all members of staff;

iii. safeguard the assets of the organisation. This implies prevention of improper storage, loss and lack of maintenance;

iv. To institute safety measures so as to prevent injury or loss of human life at work;

v. To ensure that records of activities of the organisation are accurate and complete and that they are properly preserved;

vi. Finally, to ensure that the objectives of the organisation are attained (Arthur Anderson & Co., 1978).

According to Okolo (1989) a good internal control system is essential for any organisation if it must function properly and must be based on soundness in principles and effectiveness in operation.

The basic features of internal control system as Okolo (1989) summarized should show:

i. A clear demarcation of the organisation into departments, and one department functions should not be allowed to overlap that of another;

ii. A clear definition of duties, responsibilities and power of each department. One department should be clearly responsible for each function such as purchasing, finance, marketing, etc.;

iii. A clear definition of the duties, responsibilities and powers of each employee within each department;

iv. A clear definition of line of command and the stipulation as to who each employee should report to;

v. A clear procedure for the authorization of payment and the use of other facilities of the organisation;

vi. An appropriate arrangement for the safe custody of all assets of the organisation including money;

vii. Establishment of appropriate supervisory procedure to ensure that the works of sub-ordinate are supervised on a continuous basis; and

viii. Establishment of appropriate system of reporting to the management.

The American Institute of Certified Public Accountants (AICPA in the statement on Audit Standards No.1 as cited by Johnson and Jaenicke (1980) classified internal control into

two, viz:

(a) Administrative Control and (b) Internal Accounting Control.

i. The Administrative Control focuses on the plan of organisation and the procedures and records that are concerned with the decision processes leading to management's authorization of transactions. Hence it is the starting point for establishing accounting control of transactions;

ii. Internal accounting controls are measures that relate to the protection of assets and the production of reliable accounting and financial reports.

When auditors perform an audit of an organisation they always study and evaluate the system of internal control. However this work is concentrated on accounting controls rather than administrative controls, because the objective of the auditors is to form opinion of the organisations financial statements and it is accounting controls which assure reliability in financial statements. On the other hand Internal Auditor is interested in the operational efficiency of the organisation rather than the annual financial statements and therefore will study both administrative and accounting controls.

With the fact that management of an organisation and even

the independent auditor rely heavily on the internal control system of the organisation, one may be tempted to believe that internal control is a panacea for all effective and inefficient management system. This is not so because internal control system in itself has inherent limitations. That is why the American Institute of Certified Public Accountants in its statement of Audit Standard, as cited by Johnson and Jaenicke (1980) analysis the limitation of internal control thus:

> In the performance of most control procedure there are possibilities of errors arising from such causes as misunderstanding of instruction, mistakes in judgement and personal carelessness, distraction or fatigue. Furthermore procedure whose effectiveness depends on segregation of duties obviously can be circumvented by collusion... any projection of a current evaluation of internal accounting control to future periods is subject to the risk that the procedure may become inadequate because of changes in conditions and that the degree of compliance with the procedure may deteriorate.

It therefore means that where corrupt practices engulf an organisation and permeate into management cadre internal control becomes ineffective and it becomes imperative for substantive audit test.

Every system of internal control operates within a certain environment comprising of both external and internal factors. The external factors include prevailing economic and political climate, industry and business conditions.

The internal factors prevail within the organisation and Kabir (1989) enumerated such as: 1. Organisational

Structure; (2) Management Leadership; (3) Budgets and Budgetary Control; (4) Personnel; (5) Sound Practices; (6) Company Complexity; and (7) Internal Reporting.

Organisational Structure:

An organisational structure contributes to a good internal control environment. It provides the overall framework for planning, coordinating and controlling operations. The fundamental concept is that no one person or department should handle all aspects of a transaction from the beginning to the end.

Management Leadership

Effective leadership from management is a great asset to any organisation. It is the management that is responsible for the establishment of a favourable control environment within the organisation. It should be able to influence people so that they will strive willingly toward the achievement of the organisation's goals.

Budgets and Budgetary Control

Budgets make several contributions to an organisation's internal accounting control. Indeed, it has been assumed that budgeting is the primary device for accomplishing control. Fremgen (1973) and Pandy (1986) saw budgeting as a systematic and formalised approach for stating and communicating the

firms expectations in financial term, and accomplishing the planning, coordination and control responsibilities of management in such a way as to maximise the use of a given resources for specific period. In support of this definition, Welsch (1976) said:

> Budgeting is the only comprehensive approach to managing so far developed that, if utilized with sophistication and good judgement, fully recognises the dominant roles of the manager and provides the framework for implementing such fundamental aspects of scientific management, as management by objective, dynamic control, effective communication, participative management, continuous feedback, responsibility accounting, management by exception and managerial flexibility.

To design budget for effective internal control Dearden (1962) and Koontz et. al. (1980) suggest that the management should sub-divide the whole organisation's budget into revenue and expenditure budget, time, space, material and product budget, cash budget and capital budget. In stressing the need of cash budget Dacoster and Schafer (1976) described cash as a critical resources in a firm and that availability of cash to meet obligations as they fall due is the first requirement of business existence. In the same vein Bierman and Smith (1993) emphasized the implication of Capital budget as being characterised with costs and benefits that are spread out over a long period and therefore requires diligent integration with long range planning. In support of budget as an instrument of control Horngren (1972) stated that budget is an instrument which tells what to do, how to do it, when to do it and which form to do it on.

The existence of budget in internal control environment, therefore provides a frame work for activities thereby giving a sense of direction and yard stick to measure performance.

Personnel

Basic to the proper control of environment are the quality and integrity of the personnel, who must carry out the prescribed methods and procedures. During recruitment proper care and caution should be exercised to ensure that personnel so recruited have the capability commensurate to the assigned responsibilities, because the proper functioning of any internal control system depends heavily on the competence and integrity of the personnel operating it.

Sound Practices

This entail the adequacy of procedures, rules and regulations in force and the extent to which they are complied with. It also involve the following-up of routine practices, which include acknowledgement of performance by mean of signature, initials or the use of organisation's seal. It as well embraces establishing a written code of conduct for employees pertaining to their moral standard of behaviours as well as prohibition against illegal acts.

Company Complexity

This aspect of company's environment pertains to such factors as the geographical dispersion of location and its diversification in operations. The recent practice where a company owns subsidiaries with different operations and even an outright acquisition of another company whose operations are at variance with the parent company suggest that there may be lack of uniformity of controls throughout the company.

Internal Reporting

An effective system of internal reporting to all levels of management is essential to a sound control environment. When properly prepared and analysed, internal reports provide the basis of evaluating performance and the manner in which delegated responsibilities are being discharged. Effective internal reporting should be both regular and timely.

Pogue (1991) warned that management must be aware of the factors affecting internal and external environments and what managerial action is required to monitor the changes and the action required to ensure that the corporate objective is not blown off course.

Internal Audit

The internal audit department is regarded as an important aspect of internal control. The Institute of Internal Auditors in its third version of the statement of

responsibilities of Internal Auditor as cited by Brink et. al. (1973) described Internal Audit and its nature in the following way:

> Internal auditing is an independent appraisal activities within an organisation for the review of operations as a service to management. It is management control which functions by measuring and evaluating the effectiveness of other controls.

The definition focuses on two principal words which require explanation, these are Auditing and Internal.

Auditing entails a thoughtful investigation, verification and appraisal of operational procedure at all levels of management. The word internal helps in emphasising that the activity is carried on by the organisation itself with its own employees, thereby distinguishing the activity carried out by external auditor

It is often the emerging needs that force the establishment of certain activities including that of internal auditing. In an attempt to really understand the nature and what created the need of internal auditing, the following questions must be answered. What is the simplest form of internal auditing and how does it come into existence?

In its simplest form, internal auditing comes to being when an individual sits back and re-examine something he himself has done and how well he has done it and think of a better way of doing that particular thing if given the chance to do it again.

It is from this direction that internal auditing emerged and gain its present formal status. Today internal auditing group has moved to a very high level in all operational areas and has established itself as a valued and respected post of top management team.

The Institute of Internal Auditors in is statement of responsibilities of the Internal Auditors states the objectives and scope of Internal Auditors as follows:

> The objective of internal auditing is to assist all members of management in the effective discharge of their responsibilities, by furnishing them with analyses, appraisal, recommendations and pertinent comments concerning the activities reviewed. The internal auditor is concerned with any phase of business activity where he can be of service to management. This involves going beyond the accounting and financial records to obtain a full understanding of the operations under review.

The statement of responsibilities of Internal Auditor states the responsibilities and functions as follows:

- To inform and advise management, and to discharge this responsibility in a manner that is consistent with the code of Ethics of the Institute of Internal Auditors;
- To coordinate his activities with others so as to best achieve his audit objectives and the objectives of the organisation.

In performing his functions an internal auditor has no direct responsibility for, nor authority over any of the activities which he reviews. Therefore the internal auditor review and appraisal does not in anyway relieve other persons

in the organisation of the responsibilities assigned to them.

In defining the scope and responsibilities of Government Internal Auditor in Nigeria Section 102 of Revised Financial Regulations (1976) made the following pronouncement:

> The Auditor-General shall examine in such a manner as he may think fit the accounts relating to public funds and property and shall ascertain whether in his opinion: (a) the accounts has been properly kept; (b) all public moneys have been fully accounted for, and the rules and procedures applied are sufficient to ensure an effective checks on the assessment, collection and proper allocation of revenue; (c) moneys have been expended for the purpose for which they were appropriated and the expenditures have been made as authorized, and (d) essential records are maintained and the rules and procedures applied are sufficient to safeguard and control public property and funds.

The status of Internal Auditor is crucial to his effective performance of his duties. The Institute of Internal Auditors prescribed Independent status for Internal Auditor while saying, Independence is essential to the effectiveness of Internal Auditing. This independence is obtained primarily through organisational status and objectivity.

Often it is discovered that the objectivity of internal auditor in government ministries and agencies is jeopardize as it is said that:

> Internal auditors of ministries and other government agencies are to be given more powers to help them in checking financial abuses as they arise. Such power could include their being shielded legally against real or perceived victimization which might constrain effective implementation of the audit alarm system (Anomymous 1991).

It al means that for effective performance of internal auditing functions objectives must be well spelt out and internal auditor allowed to operate freely without hindrance.

2.3 Accounting Control Approach to Financial Operations

The aspect of internal control that interest independent auditors is that of accounting control, since they are to attest to the reliability and fairness of the financial statement presented by the management. Under this accounting control specific areas are of important to the auditor in performing his functions, such as cash, payroll, sales, purchases and inventory.

2.3.1 Cash Control

Cash, according to Black et. al. (1973), consists of items which are unrestricted as to use and are available readily for paying any obligations of the business. It include cash in hand and at bank which are not designated for a particular long-term use.

Simons (1972) emphasized that, control over business cash normally requires as a minimum the separation of cash custodial function and cash recording functions. Otherwise if cash is not protected or controlled it may be lost to pilfering, lost to clever schemes of thief or lost through honest mistake. For these reasons cash flowing through an economic entity must be protected or controlled (Smith et. al.

1983).

Procedure for Control of Cash receipts over the counter as emphasized by Arthur Anderson and Co. (1978) include: (a) issuing of pre-numbered receipts for every cash collected or/ and rung it up on a cash register; (b) frequent prove of the total cash received; (c) depositing all daily cash collection with the bank; (d) separation of functions - the Cashier should not have access to records not be the person depositing cash to the bank to avoid defalcation.

On Petty Cash handling: (a) specific instructions in writing should be given to all staff who maintain cash floats; (b) responsibility for the authorization of the maintenance of cash floats and of their number should be stated; (c) staff who are allowed access to cash floats should be stated; (d) there should be regular supervision and verification of petty cash voucher.

On banking transaction, there should be a stated interval when bank should issue bank statement to ease bank reconciliation process. Any discrepancy should be verified promptly and ascertained. Weaver et. al. (1982) pointed out three internal control for cash in bank as (i) deposit all cash receipts intact; (ii) making all payments by cheque; (iii) using prenumbered cheques. Where these controls are followed, the bank statement becomes an external source of control for cash.

2.3.2 Payroll Control

According to Weaver et. al. (1982) and Smith et al. (1983) sound system of internal control is vital in both the preparation and payment of employees' remuneration. The auditor must therefore satisfy himself that the control system is adequate, otherwise he should point out to the client where the weakness has been found. As Williams (1972) puts it payroll system has proved to be one of the sections of the financial system often used by unscrupulous employees for the purpose of fraudulent manipulation. He opined that the control measure adopted should ensure that: (a) separate file is kept for each employee containing information about the employee; (b) laid-down procedure is followed pertaining to notification of resignation, retirement, changing rate of pay, termination, and dismissal; (c) special personnel are assigned the duties of preparing the payroll; (d) any form of deductions are promptly remitted to the appropriate agency; (e) wages and salaries are paid only to the actual employee and authorized pay rate; (f) surprise attendance of the internal auditor at the pay point where cash is paid; (g) regular independent comparison of personnel records with payroll records; (h) an officer is charged with the responsibility of supervising each stage of preparation of payroll; (i) a person who prepares the payroll is not the one paying; and (j) there is a laid-down rules pertaining to handling of unclaimed salaries and wage.

2.3.3 Sales Control

Sales is a source of revenue to any organisation, to avoid misappropriation of revenue generated from sales proper control measures are required. According to Vance (1960) and Linnaus (1977) control measure should cover: (a) authority as to the accepting of order; (b) procedure to ensure that sales are made at the correct price and under agreed terms of discount; (c) proper assigning of responsibilities of issuing invoices and credit note, the completion of these document as regard filling in quantities, prices and totals and safe custody of unused book-let; (d) goods should be examined and recorded by staff other than those engaged on stock maintenance or invoicing duties; ((e) sales ledger staff should not be engaged in work covering cash or stock records nor be responsible for sales invoicing or any other sales staff duties; (f) an officer should be charged with the responsibility of the operation of control accounts on debtor's ledgers and to review the ledgers regularly; and (g) sales returns, prices adjustments and special allowances should be operated under an efficient system of internal check and supervised by an officer.

2.3.4 Purchases Control

Purchases constitute an activity where organisation's revenue is expended and as such requires effective control system. Before expenditure is incurred on acquisition of

items, Weaver et. al. (1981) stated that there must be: (a) requisition and authorisation - a demand for the use of an item must have department of origin and authorised by the Head of Section where the items will be used; (b) those charged with the responsibility of acquiring/ordering goods unbehalf of the organisation; (c) a system of handling the goods on arrival. The goods received must be inspected, accepted and transfer to the department's stores; (d) those who check the purchases order against goods received; (e) those who check the invoice received, maintain a day book, write-up the ledger accounts and check the suppliers statements; and (f) officer who authorise payment for the goods purchased.

In Government the purchase control measures are spelt out in sections 3901-3915 of Revised Financial Regulations (1976) which states inter-alia:

> All local purchase of or indent for, store must be authorised by the officer controlling expenditure, and the local purchase order must be signed by him... stores purchased in Nigeria, the cost of which exceeds N5,000 must be obtain by contract after public tender, except as otherwise specially authorised by the Commissioner of Finance. Circumvention of this regulation must not be attempted by breaking down a single order exceeding this limit into several orders for lesser amount.

2.3.5 Inventory Control

The importance of adequate internal control over inventories from the viewpoint of both management and the auditors cannot be overemphasized, since it is the area that huge sum of revenue is expended. According to Gillespie

(1962) and Bazley et. al (1988) the measures adopted to control inventory include: (a) classification of inventories according to type e.g. raw material, components, work-in-progress, and finished goods; (b) storing the inventories under conditions that will not expose them to vagaries of weather; (c) establishing maximum and minimum level of inventories with re-ordering levels; (d) proper security measure established to safeguard pilfering and theft; (e) periodic physical inventories verification; (f) identification of slow-moving, obsolete and damaged inventories and the application of appropriate disposal procedure as per organisation's policy; (g) all inventory items should pass through the store for proper record keeping; (h) issuing of inventories through an establish standard form duly authorised; and (i) regular inspection and comparison of inventory records with physical inventory.

2.4 Approaching Auditing

For an audit to begin an independent auditor need to be appointed. An independent auditor is someone who is educational sound, technically competent and independent in all ramification to attest to financial statements of an organisation (Santocki 1972). An auditor must be professionally qualified to perform an audit functions which entail the examination of evidence that enables him to express an opinion on the financial statements, thereby issuing an

auditors report so that the public will have confidence in the financial statement as being objective and impartial.

The principal reason for the existence of independent auditor is to perform the attest function to the financial statement thereby providing assurance as to the fairness and dependability of such financial statements. The retention of a firm of independent auditor to attest to financial statement is caused by usual conflict of interest which may exist between the company preparing the financial statement and those persons who use the financial statement.

The recognition of the importance of independent auditor to the third parties led to the formation of the Institute of Chartered Accountants of Nigeria in 1965 with the aim of training professional Accountants.

The companies and Allied Matters Decree 1990 requires that every company in this country should have its account audited by independent auditors. The rules guiding their appointment and removal are enshrined in this Decree. On appointment section 357 (1) States:

> The shareholders are responsible for the appointment of the auditor during the Annual General Meeting (AGM) of their Company, therefore the auditor are the agent of the shareholders auditing the accounts of the directors who also are agent of the shareholders on whose behalf, and whose benefits, the director carry on the business... He (the auditor) is appointed to act as a check upon the directors and to ensure on behalf of the shareholders, who are the proprietors of the business, that the directors carry on the undertaking honestly for the benefit of the shareholders and render to them true and fair accounts.

Section 357(5) gives authority to the directors to appoint the first auditors of the company by saying: "... the first auditors of a company may be appointed by the directors at any time before the company is entitled to commence business and auditors so appointed shall hold office until the conclusion of the next annual general meeting. The subsequent appointment therefore rest on the shareholders."

The Act in stating the qualification before someone can be appointed an independent auditor, says under section 358 (1) as follows: "The provisions of the Institute of Chartered Accountant Act 1990 shall have effect in relation to any investigation or audit of the purposes of this Act". That is one must first qualify as a Chartered Accountant to be appointed as auditor. To qualify as a Chartered Accountant, the Institute of Chartered of Accountants Act 1990 Section 8(1) states that:

> "a person shall be entitled to be enrolled as a Chartered Accountant if:
>
> (a) he passes the qualifying examination conducted by the Council under this Act and completes the practical training prescribed; or
>
> (b) he holds qualification granted outside Nigeria and for the time being accepted by the Institute and, if the Council so requires, satisfies the Council that he has had sufficient practical experience as an Accountant.

Sub-Section 3 emphasized that an applicant for registration shall in addition to evidence of qualification, satisfy the Council: (a) that he is of good character; (b)

that he has attained the age of twenty-one years; and (c) that he has not been convicted in Nigeria or elsewhere of any offence involving fraud and dishonesty.

The duties and power of an auditor is enshrined in companies and Allied Matters Act 1990 in Section 360 which states inter alia:

> It shall be the duty of the company's auditors, in preparing their report, to carry out such investigations as may enable to form an opinion as to the following matters whether -
>
> (a) proper accounting records have been kept by the company and proper returns adequate for their audit have been received from branches not visited by them;
>
> (b) the company's balance sheet and (if not consolidated) its profit and loss account are in agreement with the accounting records and returns.

Basically the auditors function is investigatory, but he is not required to approach his work with a forgone conclusion that there is something wrong (Sasegbon, 1991).

In essence, auditors provide the professional assurances which the members of the company require as to the financial probity of those who manage their investment.

Removal of an auditor is base on Section 362(1) which states: "A company may by ordinary resolution remove an auditor before the expiration of his term of office, notwithstanding anything in any agreement between it and him". While resignation follows section 365(1) which states:

> An auditor of a company may resign his office by depositing a notice in writing to that effect at the company's registered office and any such notice

> shall operate to bring his term of office to an end on the date of which the notice is deposited, or on such later date as may be specified in it.

2.5 Audit Approach to Financial Operations

There are specific areas of financial operations that auditor are interested in. These include cash, payroll, sales, purchases and inventory.

2.5.1 Cash Audit

In setting out to audit receipts and payment made by an organisation, Williams (1972) and Millichamp (1989) recommended that the auditor should: (a) trail that all Cash received are deposited intact; (b) see that proper records that affect the cash are kept; (c) verify that duplicate tellers and credit records are in agreement each day; (d) verify that cheques issued are restrictively cross "Not negotiable-Account Payee Only"; (e) confirm that authorised signatories sign every cheque issued; and (f) verify that cheque issued was on authenticated demand.

As regard petty cash the Auditor should: (a) vouch the petty cash expenditure; (b) ensure that petty cash payments have been authenticated and cancelled; (c) ensure that checking for balances must be initialled by the Officer; (d) check casts and balances carried down on the book; (e) make surprise counts of cash postage balances held; (f) ascertain that all cheques held have been cross in favour of the creditor "Not Negotiable - Account Payee Only"; and (g) verify

stock of unused receipts, cross-check with control records and printer's invoice.

If proper cash control system has been instituted and the auditor is satisfied with the system he will only conduct compliance test otherwise substantive test will be conducted which will take more time on the part of the auditor and additional expenses on the part of the client.

2.5.2 Payroll Audit

According to Cooper and Lybrand (1985) and Waldron (1978) in auditing payroll it is pertinent that the auditor exercises great care in verifying that: (a) engagement had been duly authorized; (b) payment is done according to agreement and any changes duly authorized; (c) overtime working is properly authorised; (d) authorities for deductions completed by employees, and deductions with summarising records; (e) salary sheets had been initialled by those dealing with the various stages of preparation and checking, and the whole is signed by a designated senior officer; (f) totals in wages sheets tally with that of the Control Accounts; (g) entries in the unclaimed wages book corresponds with the entries on the wages sheet; (h) proper authority was given to someone who receive payment onbehalf of another; (i) signature for receipts of payment corresponds with original signature on commencement of employment; (j) balances of unclaimed wages are banked regularly in accordance with directives; and (k) deductions

are paid over to the appropriate agency and Pay-As-You Earn deduction paid over to the Board of Inland Revenue.

2.5.3 Sales Audit

Auditing of sales seeks to confirm the turnover position of the financial statement as presented by the management. According to Howard (1972), the auditor therefore should: (a) vouch the invoices against the sales day - book; (b) verify for the proper authorisation of discount terms; (c) vouch receipts counterfoil; and (d) examine the make-up of sales ledger and note a customer who formerly paid promptly, appearing to be falling into areas.

2.5.4 Purchases Audit

According to Attwood and Stein (1986) auditing purchases starts with the book of prime entry and vouching. In vouching the authenticity of the documents and the transactions it covers, it is necessary to ensure that: (a) it is properly addressed to the organisation and not its staff; (b) the date is within the period being audited, if not, explanation should be obtained; (c) the goods are those normally required by the client, if not, investigation should be conducted; (d) the invoice is properly cast to total; (e) the initial of the officers responsible for the handling of the goods at different stages are appended with rubber stamp and date marked on the face of the invoice; (f) the goods or services

have actually been received by the organisation; (g) the order was properly placed; and (h) items in respect of capital expenditure or expenses items are properly segregated from trading purchases.

Purchases activity is usually vulnerable to defalcation and other form of irregularities e.g. over invoicing. It is therefore incumbent on the auditor to exercise extra care in order to avoid liability.

2.5.5 inventory Audit

The auditor team is interested in ascertaining that the inventory figure in the balance sheet represents what is really available physically. Howard (1972) suggested the steps to be taken before, during and after stock-taking and where the steps were not practicable what action to be taken. He said:

(a) before stock-taking the auditor should study the client's stock-taking instruction and make himself familiar with location of stocks, quantities, values, factors affecting condition of stocks, and possibilities of obsolete or slow-moving stocks;

(b) during stock-taking, the auditor is expected to be in attendance to ensure that the clients' employees carry out their work efficiently;

(c) after stock-taking; the auditor should check the "cut-off" using the details of stock movements

including the last numbers of goods inwards and outwards, and test that the final stock sheets have been properly prepared from the count records and that they include all stock belonging to the organisation, which are held by custodians, and where material, independent confirmations should be obtained;

(d) where attendance at stock-taking is not practicable, it is recommended that procedures distinct from and extra to those usually followed when forming an opinion on stocks, as in their judgement, as skill professional men, are necessary in the circumstances to satisfy themselves that;

(e) the records of the stock-taking produced to them represent a substantive audit exercise which requires the obtaining of inventory representations, that does not in any way reduce the scope of the examination to be made by the auditor nor does it lessen their responsibility.

2.6 The Relatiionship Between Internal Control System and Audit

The work of auditor as regard the internal control can be said to be in phases. The preliminary phase is evaluation of internal control. American Institute of Certified Public Accountants, Statements on Audit Standards on the second generally accepted auditing standard on field work states,

"There is to be proper study and evaluation of the existing internal control as a basis for reliance there on and for the determination of resultant extent of the test to which auditing procedures are to be restricted".

Internal control system are indigenous to each client since they are developed by different individuals with different skills, for different managements and for different sizes of companies utilizing different personnel, records and data processing methods. Thus the study of internal control systems cannot be standardized but must be tailored to the system used by specific client.

The study of the internal accounting control consists of:

(i) A review of the system to obtain knowledge and understanding of the clients' prescribed system;

(ii) Test of compliance to determine whether the prescribed control procedures are in use and are operating as planned.

I. Review of the System

In reviewing the system the auditor seeks information about the internal control environment and the accounting system. On getting the information or major classes of transaction the auditor decides whether to continue or to terminate the review. A decision to continue is taken if the auditor believes that further study will likely justify some

restriction of substantive test and the audit effort required to complete the review and perform test of compliance will not exceed the substantive test that could be relied on internal control.

II. Audit Test of Compliance

Tests of Compliance are performed to obtain reasonable assurance that controls expected to be relied on are in use and are operating effectively.

Internal control procedure are tested in order to provide evidence as to the operation of these controls. These controls are the ones upon which the auditor place some reliance when determining the nature, extent and timing of his evaluation procedures.

Communication of Material Weaknesses

It is incumbent on the auditor, as required by GAAS, to communicate any material weaknesses in internal accounting control that come to his attention, to Senior Management and the Board of Directors. The communication should be made at the earliest possible time following the completion of the compliance tests, It could be oral, but written communication is preferable where the auditor offers suggestion for corrective action as this may resolve the liability of the auditor should the management neglects his suggestions and suffer any losses.

2.6.1 External Audit and Internal Audit

A proper understanding of respective roles of independent auditor and the internal auditor, and the area of common interest requires a recognition of changing conditions and objectives that have taken place over recent years. The continued growth in size of organisation and diversification of activities stem from the continuing expansion of public ownership and investment.

Significant in recent years also has been the greater tendency for investors and creditors who have suffered financial losses to try to hold the independent auditor liable for not finding and disclosing any adverse development, in a more timely manner. This latter situation has made the independent auditor more cautious than ever before. Furthermore, the cost of independent auditor's services have increased substantially, due to the upgrading of the calibre of the personnel being used. The result has been increased pressure from client to control the level of fees charged. The combination of the increased responsibilities and fee pressures have pushed the independent auditor into the position of being more and more interested in protecting himself through the greater reliability on the internal financial procedures. It is this latter increased concern that sharpens the independent auditor's interest in the work of internal auditor.

The same changes in the nature and scope of the company operations have also had their impact upon the internal auditor. The complexity and increasing size of those internal operations have meant that new control and maintenance of all existing ones are needed. The rising fees of independent auditor have caused the management to consider more intensively what internal auditor can do to help in reducing the independent auditing cost. This has resulted in affording the internal auditor a greater opportunities in contributing to the improvement of operational activities. The internal auditor therefore helps the management, through improvement of internal operations, to reduce the audit cost and at the same time trying to exploit profit opportunities in operation areas.

Internal and External Auditor

The relationship between these two audit groups depends on how one group views the work of the other. It is then better to trace the possible area of cooperation between them.

I. Area of Co-operative by the Independent Auditor

The independent auditor usually rely upon the adequacy of internal procedures, especially those pertaining to the accounting and financial activities. This reliance depends on the way procedures are designed and the effectiveness with which they are being implemented. This is usually referred to

as the reliance upon the system of internal control. The interest shown by the external auditor on the work of internal auditing group is formally recognised by the American Institute of Certified Public Accountants in its Statement on Auditing Procedure No.33 "Auditing Standards and Procedures" as cited by Brink et, al. (1973) which reads:

> There is to be a proper study and evaluation of existing internal control as a basis of reliance thereon and for the determination of the resultant extent of the test to which audit procedures are to be restricted.

and a subsequent statement said:

> Independent auditors should consider the procedures performed by internal auditors in determining the nature, timing and extent of their own tests. The work of internal auditors should be considered as a supplement to, but not a substitute for, tests by independent auditors.

The independent auditor views the internal auditing activities as a component part of the total system of internal control and as such has a special interest in the organisational status of the department, the capabilities of its personnel, the extent to which professional standards are adhered to and the overall independent of its reporting.

II. Identification of New Situations

The independent auditor needs very much to be alerted about new problems or development that may involve potential problems in his final judgement about the financial statement. The internal auditor is in a better position to identify such

situations, since his assignment covers a wide range of the organisation's activity.

III. Sharing Plans and Findings

The relationship between the independent auditor and internal auditor unavoidably raise the question of the extent to which the independent auditor should share his plans and findings. Definitely, the more complete the disclosure of each group to the other the better basis that can exist for effective coordination.

IV. The Independent Auditor's Support for Internal Auditor

The emphasis of independent auditor on a client having an effective internal auditing department can be viewed as support to internal auditor. There are certain occasions where the Management does not properly appreciate the *potential contributions associated with internal auditing* group, but due to independent auditor's pressure on the management the internal audit department is established.

2.6.2 The Difference Between Independent Auditor and Internal Auditor

There are some fundamental differences between independent and internal auditors, although the two audit groups have a common interest in certain important matter. According to statement of auditing (U4) of Institute of Chartered Accountants of England and Wales as cited by Howard

2.7 Similar Studies

Few studies have been carried out by researchers at different times on the effect of internal control system on audit.

(Waziri, 1991) observed that auditing depends on the internal control system and that through evaluation of internal control system that the auditor can determine the extent and the timing of audit exercise. He sees auditors as the watchdog of an organisation whose job it is to render account to the third party; and without audited accounts the third party may not have confidence on the reported accounts of the management. The auditor verifies the evidence of the transactions presented to him to see that the information that is provided is adequate and accurate and that there is enough protection of resources to prevent irregularities, embezzlement and losses.

As regard Cash Control Kabir (1989) believe that cash control is necessary to guard against misappropriate of cash balance and to prevent unauthorized payment. To achieve this she opined that cash float as specific amount be established and arrangement of security measures including the use of safes and restriction of access to those safes by an unauthorized persons be observed.

To guard against misappropriation of bank balances she suggested frequent demand for bank statement so that bank reconciliation can be effected and that a specific officer be

appointed to be in-charge of writing and custodying cheques. To ascertain the effectiveness of cash control she opined that auditors be appointed to verify the authenticity of all cash transactions so as to restore confidence on the cash control system.

On Payroll Control system she observed that the effectiveness of payroll system depends on the expediture of the staff involved and that the higher the number of years of experience of the staff the less the number of audit queries and vice versa.

In pursuance of Sales Control Istifanus (1987) asserted that sales control is concerned with guarding against the lost of goods and defalcation of figure of revenue accruing from sales. For effective protection of sales revenue he suggested that every step in the process of sales be authorized by senior officer, i.e. every order received should be scrutinized and every invoice raised should be checked against order to see that the order invoice and the physical goods to be sent out tally before packaging for waybill to be issued thus making the goods ready for despatch.

He saw sales audit as the exercise of trailing order received to the time when the actual goods are despatched. To him sales audit is substantive audit test.

As regard procurement control procedure Istifanus (1987) and Kabir (1989) observed that in government organisation procurement constitutes a high level of expenditure which must

be closely monitored. They opined that internal auditors be involved in monitoring every stage of procurement, right from ascertaining the department requesting for such items(s) to be procured up to the time procurement has been done and the item(s) delivered to that department for use.

On inventory control Waziri (1991) observed that for protection of inventory against, pilferage, loss through evaporation and outright theft proper storage facilities is a must, and that issuance of inventory be based on first in first out formula to guard against deterioration due to age.

He opined that in ascertaining proper control of inventory, regular stock-taking should be observed and auditors should be present at least during the end of financial year stock-taking to compare physical stock with inventory ledger balances to see that the stock balance reflects the true position in the financial statement. Where there is discrepancy of material nature between inventory ledger balance and physical stock balance, investigation should be carried out to ascertain the cause of such discrepancy so as to guard against future occurrence.

The studies generally see internal control system as the base for auditing and that auditing plays a predominant roles in ascertaining certain pressure for effective internal control system, but the studies have not been able to establish the conditions at which compliance audit test is required and when substantive audit test is necessary. To

this end the present study seek to ascertain conditions which each of the audit test is required.

2.8 Summary of the Related Literature

This portion has succeeded in pin-pointing the meaning of internal control system and its nature. Thereafter it enumerates the need, objectives, features and types of internal control. The problems associated with internal control is also discussed, as well as factors affecting the establishment of efficient internal control. The internal auditing as a principal element of internal control is described in relation to external auditing. The approach to internal control system affecting cash, payroll, sales, purchases and inventory are narrated together with independent auditing procedure.

In all, principles of internal Control System and its relevance to audit is intensively examined.

Chapter 3

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter focuses on the procedure adopted in conducting this research. It involves the description of: (i) Research Design; (ii) Population; (iii) Sample procedure sample selection; (iv) Instrumentation; (v) Questionnaire rating; (vi) Questionnaire Design and Data Collection; and (vii) Statistical Method and Treatment of Data.

3.2 Research Design

A case study of internal control system of financial operations affected by audit was carried out using Ahmadu Bello University, Zaria. The areas specifically studied were cash, payroll, sales purchases procurement and inventory.

Preliminary investigation was conducted by the researcher. During the course of investigation, the researcher visited the Bursary Department and the Internal Audit Unit of the University. It was during the visit that the researcher was exposed to different sections of the Bursary Department usually affected by audit.

The sections visited were: (a) Cash; (b) Intermediate and Junior Staff Payroll; (c) Senior Staff Payroll; (d) Finance; (e) Expenditure Control; (f) Claims and Advances; (g) Central Purchasing; (h) Contract and Service; (i) Loans; (j)

Pension and Insurance; (k) Account Payable; and (l) Computer Service.

It was during this preliminary investigation that the researcher observed the internal control procedures adopted by the university which are affected by audit, and interviewed officers in-charge of the sections.

3.3 Population

The population of the study was made up of 130 members of staff in the category of EUSS 3 and above from Bursary Department and Audit Unit.

The staffers were those with minimum qualification of West African School Certificate. This group of staff is believed to have considerable knowledge and understanding of internal control system operating in their area of functioning and even beyond.

In essence it was only the intermediate and senior staff that were involved in the study. All of them are involved in maintaining accounting records of the university.

3.4 Sample Procedure and Sample Selection

The stratified random sampling was used. Members of staff from Bursary Department were divided into three groups as follows; EUSS 3-5, EUSS 6-8, EUSS 9 and above, then audit staff formed one group making it four groups. Specific number of staff from each group were selected. Under EUSS 3-5, 40

members of staff were involved, under EUSS 6-8; 30 staff, EUSS 9 and above 20 staff and 10 Audit staff making it 100 members of staff in all.

This was done to have a fair representative of the categories of staff used in the study.

3.5 Instrumentation

Questionnaire, interview and observation were the procedures used for the study. In order to make sure that the questionnaire for the study was valid for the purpose in which it was intended, the questionnaire was given to experts for appraisal and validation. This was to make sure that the questionnaire was in conformity with internal control questionnaire for each area of accounting control system usually affected by audit as well as to ascertain its content validity.

On reliability, the questionnaire was adopted with little modification from the work of Coopers and Lydrand (1982) Coopers and Lydrand earlier on conducted a test - retest using the instrument on some clients and a reliability co-efficient of a 0.8 was obtained, thereby proving the instrument highly reliable for use and it has been used by Kabir (1989) and Waziri (1991) in studying the financial control system of organisations.

The choice of the instruments was based on experts reports, such as Nunnally (1964) and Gronlund (1978) that the

best way of gathering enough information for research is through the combination of questionnaire, interview and observation.

3.6 Questionnaire Rating

Likert rating scale was used in the questionnaire constructed and administered to all groups of respondents. Each item of the questionnaire was structured to elicit such responses as very strongly agreed, well agreed, slightly agreed, disagreed and strongly disagreed.

The ranking order of these responses was 5 through 1 respectively. They were arranged as shown below:

Very Strongly Agreed	(VSA)	-	5 points
Well Agreed	(WA)	-	4 "
Slightly Agreed	(SA)	-	3 "
Disagreed	(D)	-	2 "
Strongly Disagreed	(SD)	-	1 "

3.7 Questionnaire Design and Data Collection

The questionnaire was divided into five sections to reflect the areas of study, such as cash, payroll, sales, purchases and inventory.

130 copies of questionnaires were administered to Bursary and Audit staff of the university through the assistance of some staff of those departments. Out of 130 copies questionnaires sent out 100 were filled and returned. This

represent about 77% of the questionnaires sent out. During analysis the questionnaires collected were collated into two groups. Those from Bursary Department and those from Audit. There were 90 qustionnaires from Bursary and 10 from audit. These two groups responses were then analysis to determined the relationship between opinion of the respondents as regard effectiveness of internal control system in enhancing efficiency of audit.

3.8 Statistical Method and Treatment of Data

To determine the relationship between internal control and auditing, the major statistical inference that was used was Pearson Product Moment coefficient of correlation (r) and Spearman Rank Coefficient of Correlation (R) Expressed in the following formulae:

$$r = \frac{N\Sigma XY - \Sigma X\Sigma Y}{\sqrt{\{N\Sigma X^2 - (\Sigma X)^2\}\{N\Sigma Y^2 - (\Sigma Y)^2\}}}$$

and

$$R = 1 - \frac{6\Sigma d^2}{n(n^2 - 1)}$$ respectively.

The significant level was determined by the use of t-test at 0.05, Expressed as $t = \frac{r\sqrt{(n-2)}}{\sqrt{1 - r^2}}$

The statistical method was chosen by the researcher since he was interested in determining the relationship between internal control and audit.

The computer software used was Statistical Package for Social Science (SPSS) to analyses the data collected. During the process of analysing the responses, frequency distribution and mean calculation were utilized to ease tabulation and the interpretation of data.

In computing the mean rating score for each of the items in the questionnaire, the below classifications were made:

VSA = 5 points: the mean score will fall between 4.51 - 5.00
WA = 4 points: the mean score will fall between 3.51 - 4.50
SA = 3 points: the mean score will fall between 2.51 - 3.50
D = 2 points: the mean score will fall between 1.50 - 2.50
SD = 1 point: the mean score will fall between 1.00 - 1.50

Thus, if there are 10 respondents in a group with total of 35 points for one of the items on the questionnaire then the mean score of respondents was calculated thus:

$$\frac{35}{10} = 3.5$$

This mean score of 3.5 falls within 2.51 and 3.5 range. This indicates a point of "Slightly agreed " (SA) on the five point rating scale. Therefore by using this scale, the level of agreement by the Bursary and Audit staff as regard the effectiveness of internal control system in enhancing efficiency of audit were considered agreeable if the mean

score on any of the items in the questionnaire was above 2.5. Any item of the questionnaire that has a mean score below 2.5 was discarded for the purpose of this study.

It was on the basis of the above elimination method that the final questionnaire of 80 items were drafted - Appendix 1.

These items were then classified as follows:

Items 1 - 30 for cash

Items 31 - 50 for Payroll

Items 51 - 60 for Sales

Items 61 - 70 for Purchases/ Procurement

Items 71 - 80 for Inventory

From the formulae we have:

X = Response of Bursary Staff

Y = Response of Audit Staff

Σ = Summation

N = Number of items

r = Co-efficient of Correlation

Chapter 4

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This Chapter discussed the analysis of data collected and collated. The analysis centred on the five (5) research questions and five (5) null hypotheses formulated for the study.

4.2 Research Questions Analysis

Research Question 1

To what extent are the policies and procedures of cash control system complied with in order to enhance efficient cash audit?

This research question attempted to determined the extent of compliance to cash control system. The responses provided on items 1 - 30 in the questionnaire were used in answering this questions and the table below provides the data:

Table 4.1

The mean rating score on effective cash control system that enhance efficient cash audit.

		BURSARY STAFF (X)	AUDIT STAFF(Y)
1.	Issuing of pre-numbered receipt for cash collected	4.7	3.9
2.	Custody ing receipt booklets under lock and key until required	4.9	4.5
3.	Recording Cash collected in cash Analysis Ledger	4.7	3.8
4.	Non exchange of personal cheque from organisation's cash	3.0	2.5
5.	Checking the correctness of cash book cast and balances daily by superior	4.4	3.6
6.	Promptness of paying cash takings into the bank	3.7	4.6
7.	Recording of incoming mail containing money	3.1	3.6
8.	Cheques sent to the institution are restrictly crossed "A/C Payee Only"	4.1	3.8
9.	Issuing of receipt on money collected through mail	3.9	3.8
10.	Cross checking the receipt to be sent out by superior	3.8	3.8
11.	Preparing teller by the cashier for the money to be paid into the bank	4.4	4.5
12.	Superior checking the duplicate teller for authenticity of bank stamping	4.5	3.0
13.	Superior checking the till and cash balances daily	3.5	3.5
14.	Not engaging cashier in posting ledger	3.4	3.0
15.	Preparation of bank reconciliation statement regularly	4.0	4.5
16.	Certificate of balance is collected monthly from banks	4.0	4.0
17.	Verification of outstanding items of over a month after bank reconciliation	3.9	4.1
18.	Sequential issuing of cheques and spoilt ones cancelled and retained	3.9	3.3
19.	Rotating staff for cash duties regularly	3.7	3.2
20.	Vouchers which payments have been effected are stamped "paid" and cancelled	4.3	3.1
21.	Supporting documents are produced for cheque signing	4.5	3.9
22.	Establishing petty cash float with imprest	4.2	4.3
23.	Checking of petty cash balances and reconciling it regularly	4.4	3.6
24.	There are at times surprise cash count and till checking by superior	4.6	4.1
25.	Paid vouchers from petty cash are stamped "paid" and dated	4.7	3.7
26.	Cheques issued are restrictly crossed "A/C Payee Only"	3.8	4.3
27.	Minimum of two signatories to a cheque is maintained	4.6	4.8
28.	Unused cheque books are kept under lock and key	4.6	4.3
29.	Register for cheque booklets is kept	4.6	3.8
30.	Returned cheques of outsiders are traced and appropriate account debited	4.1	4.0
	Σ	125.2	115.9
	$\overline{X}$	4.17	3.86

Based on the above data, the bursary staff indicated strict compliance to items 1, 2, 3, 24, 25, 27, and 29, while items 4, 7, 13, and 14 were rarely complied with but the remaining 18 items were moderately complied with. The audit staff on their part indicated items 6 and 27 as being strictly complied with while items 4, 12, 13, 14, 18, 19 and 20 were rarely complied with and the remaining 21 items being moderately complied with.

The finding revealed that there has been moderate compliance to cash control procedures and policies as the respondents mean rating score fell within 3.51 - 4.5 instead of 4.51 - 5 which would have indicated strict compliance to policies and procedures of cash control. Hence it can be concluded that cash control system has been moderately effective.

Research Question 2

Are the payroll control procedures and policies observed according to specification so that efficient payroll audit can be achieved?

The above question was answered using items 31 to 50 in the questionnaire. The Table 4.2 below shows the responses on the extent of compliance to payroll control system.

Table 4.2

The mean rating score on effective payroll control system that enhances efficient payroll audit.

		BURSARY STAFF(X)	AUDIT STAFF(Y)
31.	Maintaining employees' records independent of payroll	4.5	4.3
32.	Written authorization for every new employment	4.4	4.5
33.	Notification of payroll by personnel section of change in status and pay rate of employee	4.8	4.5
34.	Proper documentation of temporary part-time employment is approved before payment is made	4.6	3.8
35.	All payroll documentations are approved and initialled by Senior Officer	4.6	3.9
36.	Payroll information is checked periodically against personal records of employee at personnel section	3.4	2.5
37.	Effecting authorized changes on personal emolument cards	4.2	3.2
38.	Transfers between successive payroll are reconciled	4.1	3.5
39.	Regular comparison of wage bill with budget and significant variance investigated	4.2	3.9
40	Personnel review conducted annually	3.8	4.3
41.	Entitlement paid are usually authorized by appropriate authority	4.8	4.8
42.	Early elimination of names of those who have left the service	4.7	4.8
43.	Immediately verification of abscondment	3.3	4.0
44.	Confirmation of bank schedule correctness against payroll Senior Officer	4.7	4.3
45.	Those engaged in preparation of payroll are not used for paying of staff collecting salary by hand	4.2	4.8
46.	Unclaimed salaries are promptly paid back into the bank	3.6	3.2
47.	Separate bank account kept for wages and salaries	4.4	4.0
48.	Prompt settlement of payroll deductions to appropriate organization	3.8	4.0
49.	Non-statutory deductions can only be effect through expressed permission by the affected staff	3.6	3.7
50.	Reconciling P.A.Y.E. with Board of Internal Revenue (BIR)	3.8	4.4
	Σ	82.6	80.4
	$\overline{X}$	4.18	4.02

The data supplied in table 4.2 above showed that the bursary staff agreed very strongly on items 33, 34, 35, 41, 42 and 44 as being strictly complied with to enhance effective payroll control but regarding items 31, 32, 37, 38, 39, 40, 46, 47, 48, 49 and 50 as being moderately complied with while items 36 and 46 were rarely complied with.

The audit staff on their own part, very strongly agreed on items 41, 42 and 45 as being strictly complied with for effective payroll control but viewed items 31, 32, 33, 34, 35, 39, 40, 43, 44, 47, 48, 49 and 50 as being moderately complied with while items 36, 37, 38 and 46 were rarely complied with.

Following the findings, it was observed that there was moderate compliance to payroll control procedures and policies since the response mean rating score of both bursary and audit staff fell within 3.51 - 4.5 instead of 4.51 - 5 which would have depicted strict compliance to procedures and policies relating to payroll control.

Research Question 3

To what extent are the sales control policies and procedures complied with in order to enhance efficient sales audit?

This question was answered using items 51 to 60 in the questionnaire. The table 4.3 provides the data on the response mean rating score on the basis of effective sales control system that enhances efficient audit.

Table 4.3

The mean rating score on effective sales control system that enhances efficient sales audit.

		BURSARY STAFF (X)	AUDIT STAFF (Y)
51.	Head of unit notifying Accounting Officer of the availability of unserviceable store	4.2	3.8
52.	Proper segregation of unserviceable store and reporting to the Accounting Officer	4.0	3.0
53.	Sufficient quantity of unserviceable store inspected by Accounting Officer and adjudge them unserviceable;	3.7	4.1
54.	Board of survey is constituted to inspect and adjudge the stores unserviceable;	4.2	4.3
55.	Disposal of items depends on appropriate Technical Officers advice;	3.8	3.9
56.	Due authority for disposal of items is given by appropriate officer	4.3	4.3
57.	When auctioning licensed auctioner is appointed to handle the auction	3.7	4.1
58.	Items to be auctioned are publicised	3.6	3.8
59.	Public tender is invited where auctioneer is not appointed;	3.6	3.4
60.	Report on the procedure and item disposed is compiled for reference	3.9	4.4
	Σ	40	39.3
	$\overline{X}$	4.0	3.9

The data in the above table numbered 4.3 shows the bursary staff is well agreeing that all the items contributed to effective sales control that enhances efficient audit but audit staff slightly agreed on items 52 and 59 while they held the same view with the bursary staff on the rest of the items.

This revealed that there has been a moderate compliance to sales procedures and policies hence the system requires more supervision and strict observation of policies and procedures affecting sales.

Research Question 4

Are there strict compliance to procurement/purchases procedures and policies to warrant auditor reliance on the purchases control system?

To answer the above question, items 61 to 70 in the questionnaire were used. The data provided in table 4.4 below shows the responses on the basis of effective purchases/procurement control system that enhances efficient audit.

Table 4.4

The mean rating score on effective purchases control system that enhances efficient purchases audit.

	BURSARY STAFF (X)	AUDIT STAFF (Y)
61. Every purchases commitment is due to a department's request	4.2	3.7
62. Authorized request form is collected at purchasing department	4.1	4.4
63. Enough lead time is allowed after submitting purchasing authorization	4.2	3.8
64. Local purchase order is prepared within expenditure limit of authorized officer	4.1	4.2
65. Suppliers submit their bills with original and duplicate of local purchase order:	3.8	4.0
66. Tender board is used when amount exceeds individual officers approval limit	3.5	3.3
67. Tender board is allowed to invite for tender	3.6	4.1
68 Only supplier who satisfies Tender Board specification is award contract:	3.8	3.7
69. There is inspection of supplies by appropriate Officer:	3.6	3.2
70. Payment is made on satisfactory execution of contract:	4.1	4.4
Σ	39	38.8
$\overline{X}$	3.9	3.88

Table 4.4 data shows that apart from item 66 which falls within slightly agreed score zone of the bursary staff rating, the rest items were regarded as contributing well to the effective purchases control system, since they fail within well agreed zone of 3.51 - 4.5. The audit staff rating of items 66 and 69 indicated slightly agreed view while the rest of the items fall within agreed zone.

The finding indicated that there has been moderate compliance to purchases/procurement procedures and policies since the response mean rating score falls within 3.51 - 4.50.

Research Question 5

Are the procedures and policies of inventory control system strictly complied with for efficient inventory audit?

The above question was answered using items 71 to 80 in the questionnaire. The table 4.5 below shows the responses on the basis of effective inventory control system that enhances efficient inventory audit.

Table 4.5

The mean rating score of effective inventory control system that enhances efficient inventory audit.

		BURSARY STAFF (X)	AUDIT STAFF (Y)
71.	Inventory supplies are cross checked against invoice;	4.5	4.6
72.	Records of inventory movement are kept	4.3	3.8
73.	All requisition of inventory is duly authorised by Senior Officer	4.4	4.5
74.	Provision of bin card for all inventory	4.2	3.8
75.	Prompt posting to stock ledger of inventory issued;	4.2	3.8
76.	Store receiving voucher is issued for inventory	4.0	3.9
77.	Regular stock taking is carried out	4.1	3.9
78.	Investigation of difference between physical stock balance and stock ledger balance	4.1	4.6
79.	Prompt reporting of loss of inventory to Accounting Officer,	4.0	3.6
80.	Surcharging of Officer responsible for loss of inventory.	3.7	2.6
	Σ	41.5	39.1
	$\bar{X}$	4.15	3.91

From the above table 4.5, it is observed that the bursary staff has well agreed that items 70 - 80 in the questionnaire contributed to the effectiveness of inventory control system. This in effect portrays the degree of compliance to the inventory procedure and policies. The audit staff on their part slight agreed with item 30 but strongly agreed with item 71 that they contributed to the effectiveness of inventory control.

From the information got from the above, it is not hidden fact that inventory control procedures and policies are only moderately complied with. This reveals the need for intensive supervision of staff by their superior.

The discrepancy between the bursary staff and the audit staff on the rating of effective implementation of the element of internal control system brought to focus the audit staff view on how effective the bursary staff has complied with internal control system instituted and whether they can rely fully on the internal control system so as to carry out only compliance test.

To determine whether compliance test or substantive test is required at any of the five sections of the internal control system delineated for this study, the relationship between the mean rating scores of the bursary and the audit staff were used to established the co-efficient of correlation at the significant level of 0.05, based on the five null hypotheses formulated.

4.3 Testing of Null Hypotheses and Decision Rule

The five (5) null hypotheses (H_0) formulated for this study were tested using correlation of co-efficient statistics. The level of significance was also computed in order to accept or reject any formulated null hypothesis. To justify the rejection of any null hypothesis tested, critical value of T-Test at 0.05 level of significance must be less than or equal to the computed T-Test. In the other hand, to justify the acceptance of any null hypotheses the value of computed T-Test must be less than the value of T-Critical at alpha level of 0.05.

Summarily:

If T-cal > T-cri @ 0.05 H_0 is rejected

If T-cal < T-cri @ 0.05 H_0 is not rejected

The tested null hypotheses were:

$H_0$1 There is no significant relationship between the effectiveness of cash control system and the efficiency of cash audit.

The table below provides the result of the correlation between the variables used in testing this null hypothesis.

Table 4.6 (a): The Correlation Analysis results on (Ho1) effective cash control system and efficient cash audit.

N	ΣX	ΣY	ΣX^2	ΣY^2	ΣXY	r
30	125.2	115.9	528.25	454.52	486.48	0.45

Table 4.6 (b): Table of significance Relationship between effective cash control system and the efficient cash audit

N	r	r^2	df	t-cal	t-cal	∞
30	0.45	0.02	28	2.67	1.70	0.05

From the computation on Appendix VII - the above tabulated result was derived. In that table, it is observed that there is positive correlation between the variables. In the determination of the level of significant, it is discovered that the T-Calculated is 2.67 while T-Critical is 1.70 at alpha level of 0.05. Based on the decision rule the null hypothesis is rejected i.e. T-cal > T-Crit., H_0 rejected. This indicates that there is sufficient evidence to show that there is statistically significant relationship between effective cash control system and efficient cash audit.

$H_0$2 There is no significant relationship between the effectiveness of payroll control system and the efficiency of payroll audit.

The table below provides the result of correlation between the variables used in testing the null hypotheses.

Table 4.7(a): The Correlation Analysis Result on ($H_0$2) Effective Payroll Control System and Efficient Payroll Audit.

XR	YR	D	D^2
7.5	9.0	-1.5	2.25
7.5	5.0	2.5	6.25
1.5	5.0	-3.5	12.25
5.5	15.0	-9.5	90.25
5.5	13.5	8.0	64.00
19.0	20.0	-1.0	1.00
11.0	18.5	-7.5	56.25
13.0	17.0	-4.5	16.00
11.0	13.5	-2.5	6.25
15.0	9.0	6.0	36.00
1.5	2.0	-0.5	0.25
3.5	2.0	1.5	2.25
20.0	11.5	8.5	75.25
3.5	9.0	-5.5	30.25
11.5	2.0	9.0	8.00
17.5	18.5	-1.0	1.00
9.0	11.5	-2.5	6.25
15.0	5.0	10.0	100.00
17.5	16.0	1.5	2.25
15.0	7.0	8.0	64.00
			$\Sigma d^2 = 650$

R= 0.51

Table 4.7(b): Table of Significant Relationship Between Effective Payroll Control System and Efficient Payroll Audit

N	r	r^2	df	t-Cal	t-Cri	∞
20	0.51	0.26	18	2.51	1.73	0.05

Appendix VII computation which the above tabulated result is derived showed positive correlation between the variables tested. On the determination of level of significance, it shows t-critical value of 1.73 at an alpha level of 0.05 while t-Calculated is 2.51. Based on decision rule the null hypothesis is rejected, i.e. T-Cri < T-Cal, H^0 is rejected.

This shows that there is enough evidence to believe that there is statistically significant relationship between payroll control system and the efficient payroll audit.

$H_0 3$ There is no significant relationship between the effectiveness of sales control system and the efficiency of sales audit.

The table below provides the result of the correlation between the variables used in testing the null hypothesis.

Table 4.8(a): The Correlation Analysis Result on ($H_0$3) Effective Sales Control System and Efficient Sales Audit

XR	YR	D	D^2
2.5	7.5	-5.0	25.00
4.0	10.0	-6.0	36.00
7.5	4.5	3.0	9.00
2.5	2.0	0.5	0.25
6.0	6.0	0.0	0.00
1.0	3.0	-2.0	4.00
7.5	4.5	3.0	9.00
9.5	7.5	2.0	4.00
9.5	9.0	0.5	0.25
5.0	1.0	4.0	16.00
			Σd^2 = 103.50
			R = 0.37

Table 4.8(b): The Correlation Analysis Result on ($H_0$3) Effective Sales Control System and Efficient Sales Audit

N	R	r^2	df	t-Cal	t-Cri	α
10	0.37	0.14	8	1.14	2.31	0.05

With table 4.3(a) above, derived from the computation on Appendix IX. There is positive correlation, but table 4.3(b) indicates a level of non-rejection of the null hypothesis because the critical value of the tested variables at 0.05 level of significant is greater than the computed t-test.

It is therefore evidence that there is no statistically significant relationship between effective sales control system and efficient sales audit.

H.4 There is no significant relation between the effectiveness of purchases control system and the efficiency of purchases audit.

The table below provides the result of the correlation between the variables used in testing the null hypothesis.

Table 4.9(a): The Correlation Analysis Result on ($H_0$4) Effective Purchases Control System and Efficient Purchases Audit

XR	YR	D	D^2
1.5	7.5	-6.0	36.00
4.0	1.5	2.5	6.25
1.5	6.0	-4.5	20.25
4.0	3.0	1.0	1.00
6.5	5.0	1.5	2.25
10.0	9.0	1.0	1.00
8.5	4.0	4.5	20.25
6.5	7.5	-1.0	1.00
8.5	7.0	-1.5	2.25
4.0	1.5	2.5	6.25
			$\Sigma d^2 = 96.5$
			R = 0.42

Table 4.9(b): Table of Significant Relationship Between Effective Purchases Control System and Efficient Purchase Audit

N	r	r^2	df	t-Cal	t-Cal	∝
10	0.42	18	8	2.10	2.31	0.05

With the computation in Appendix X which the above table 4.4(a & b) derived, there is a positive correlation between the variables tested, but in the determination of significance, it is observed that t-Cal is less than t-Cri at Alpha level of 0.05 hence, the null hypothesis is not rejected.

This indicates that there is no sufficient evidence to show that there is statistically significant relationship between effective purchases control system and efficient purchases audit.

$H_0 5$ There is no significant relationship between the effectiveness of inventory control system and the efficiency of Inventory Audit.

The table below provides the result of the correlation between the variables used in testing the null hypothesis.

Table 4.10(a): The Correlation Analysis Result on ($H_0$5) Effective Inventory Control System and Efficient Inventory Audit.

XR	YR	D	D^2
1.0	1.5	-0.5	0.25
3.0	7.0	-4.0	16.00
2.0	3.0	-1.0	1.00
4.5	7.0	-2.5	6.5
4.5	7.0	-2.5	6.25
8.5	4.5	4.0	16.00
6.5	4.5	2.0	4.00
6.5	1.5	5.0	25.00
8.5	9.0	0.5	0.25
10.0	10.0	0.0	0.00
			$\Sigma d^2 = 75.00$
			R = 0.55

Table 4.10(b): Table of Significant Relationship Between Effective Inventory Control System and Efficient Inventory Audit.

N	r	r2	df	t-Cal	r-Cri	α
10	0.55	0.30	8	1.86	2.31	0.05

The computation at Appendix X1 where the above tabulated result had been derived showed a positive correlation between variable tested. In the determination of level of significant, it is observed that, the value of t-Calculated of

1.86 is less than the value of t-Critical of 2.3 at 0.05 level of significant. Based on the decision rule, the null hypothesis is not rejected i.e. T-cal < T-cri. Ho not rejected.

This indicates that there is no enough evidence to show that there is statistically significant relationship between effective inventory control and efficient inventory audit.

4.4 Discussion

This study has established that the internal control system of the university has been moderately effective, otherwise the mean rating score of both the bursary and the audit staff would have fallen within 4.51 to 5.00 rather than within 3.61 to 4.50 observed. This points to the fact that certain instructions, policies and procedures have not been fully implemented and that certain accounting procedures jettisoned.

The hypotheses tested revealed that there is positive correlation between effectiveness of internal control system and the efficiency of audit of all the five areas of financial operation delineated for the study. This indicates that the more the accounting procedures, policies and instructions are strictly adhered to the more relaxed the accounting staff will be during the presence of auditors to audit their account. The usual tension created during the presence of auditors will be reduced.

From the study, cash and payroll showed statistically significant relationship between effectiveness of their control system and efficiency of their audit while sales, purchases and inventory showed no statistically significant relationship between effectiveness of their control and the efficiency of their audit. This indicates that there has been element of strict compliance to accounting procedure and policies by the staff of cash and payroll sections than the staff of sales, purchases and inventory sections.

This implies that the staff of cash and payroll sections would feel more relaxed during the presence of auditors than staff of sales, purchases and inventory sections. On the other hand, those areas which showed statistically significant relationship require audit compliance test only while those that showed no statistically significant relationship require substantive audit test.

According to Meigs et. al. (1982) where there is a detailed substantive audit test there is bound to be huge audit expenses. In other words, the more effective on internal control system is the less the audit expenses. Then the positive correlation between the effectiveness of internal control system and the efficiency of audit observed from study showed that there is proper approach to internal accounting control system in Ahmadu Bello University, Zaria, despite the weak areas that need to be corrected.

Chapter 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of the Study

The fact that the auditor has to evaluate the internal control system of the organisation in which he is to audit forms the basis of audit procedure. This study was then designed to evaluate the internal control system of Ahmadu Bello University, Zaria, and the relationship between it and audit.

The study was conducted in stages. The first looked into the background of the problem, followed by the review of related literature. Under this review six subheads were identified which formed the steps at which the review was done. These include:

(a) Internal control system - an overview

(b) Accounting control approach to financial operations;

(c) Approaching auditing;

(d) Audit approach to financial operations;

(e) The relationship between internal control system and audit;

(f) Similar studies.

The sample population of 100 members of staff were involved, drawn from Audit and Bursary Departments. These staffers were those with at least West African School

Certificate. In other word from clerical staff upward were used for the study.

Data collection was done through administration of questionnaire, observation and interview. For fair representation members of staff were categorised into four groups. Group one comprised of 40 staff on EUSS 3 - 5; group two was made up of 30 staff on EUSS 6 - 8; group three consisted of 20 staff on EUSS 9 and above while the last group were 10 audit staff.

In addition to preliminary investigation which was conducted to ascertain the relevant section of the bursary to be used, a modified internal control questionnaire from Cooper and Lybrand with co-efficient or reliability of 0.8 was used in gathering information.

The questionnaire was standardized for all the variables and 100 questionnaires were collected from respondents.

The Likert rating scale was used in the questionnaire to elicit the information needed. The rank order of the responses were arranged as follows:

Very strongly agreed	(VSA)	-	5 points
Well agreed	(WA)	-	4 "
Slightly agreed	(SA)	-	3 "
Disagreed	(D)	-	2 "
Strongly disagreed	(SD)	-	1 point

Five (5) null hypotheses were formulated and tested. The statistical correlation of the variables were tested to

audit using Pearsons Product Moment Correlation (PPMC) in relation to Hypothesis one.

The relationship between effectiveness of payroll control system and the efficiency of payroll audit was statistically significant. The relationship showed positive correlation with the use of Spearman Brown Rank Co-efficient of correlation in respect of Hypothesis two.

On Hypothesis three the relationship between effectiveness of sales control system and the efficiency of sales audit was not statistically significant. This was in conformity with Waziri's (1991) study, positive correlation was observed in both studies with the use of Spearman Brown Rank Co-efficient of correction.

There was no statistically significant relationship between effectiveness of purchases control system and the efficiency of purchases audit in relation to $H_0 4$, though the relationship showed positive correlation using Spearman Brown Rank co-efficiency of correlation. On $H_0 5$ there was no statistically significant relationship between effectiveness of inventory control system and the efficiency of inventory audit, though there was positive correlation with the use of Spearman Brown Rank co-efficient correlation.

In all, two areas of financial operation, that is, cash and payroll showed statistically significant relationship between effectiveness of their control system and efficiency of their audit while three areas, that is, sales, purchases

and inventory showed no statistically significant relationship.

5.3 Conclusions

The following conclusions were drawn from analysis of the data based on each formulated null hypothesis in Chapter one.

5.3.1 H_1 Based on the findings of this study in which variables tested had a critical values at 0.05 less than the computed t-test, this null hypothesis was rejected. It can then be concluded that the auditors do rely on the cash control system and perform compliance audit test of cash transactions.

5.3.2 H_02 The variables used in testing this hypothesis showed t-calculated greater than t-critical at 0.05 level of significant, hence the null hypothesis was rejected. This implies that it is only compliance audit test that is being performed on payroll system of the university by the auditors. Coupled with moderate positive correlation and rejection of the null hypothesis it has been established that there is an effective internal control system of payroll.

5.3.3 H_o3 With the tested variables at 0.05 level of significant, the t-calculated is less than t-critical, the null hypothesis was not rejected. This implies that though the auditors recognised the sales control system they relied a little on it and as such substantive audit test is always conducted.

5.3.4 H_o4 Based on the variables tested there was a positive correlation with a calculated T-test of 2.10 which is less than t-critical of 2.31 at 0.05 level of significant, hence the null hypothesis was not rejected. This indicates that the auditors recognised the purchases control system but rely little on it thereby conducting substantive audit test on this area of internal control system of the university.

5.3.5 H_o5 From the result of our computation, there is a positive correlation between the variables tested with t-calculated of 1.86 which is less than t-critical of 2.31 at 0.05 level of significant. This makes this null hypothesis not to be rejected. The implication being that although the auditors recognised the university inventory control system they still

engaged in substantive audit test in this aspect of internal control.

Generally, the findings have shown that there is no situation where the correlation is + 1, to indicate a perfect correlation, hence certain weaknesses appear here and there in the internal control system of the university which affect efficient audit in the establishment.

5.4 Recommendations

Based on the findings and conclusions of this study, the following recommendations were made:

1. The university authority should organise in-house training for newly appointed accounts staff and refresher courses for old staff to acquaint them of the need for proper adherence to the internal control system. It is not a gain saying that the degree of effectiveness of any control system depends on the proper understanding of the system by the staff operating it.

2. Daily cash checking by senior staff (cash officer) should be done, so that the balances in the till and cast can be ascertained. This will guide against the tendency of misappropriation of fund and "soft loan" syndrome. This will as well create in the staff a sense of responsibility.

3. The Bursar should rotate cash duties amongst appropriate calibre of staff to avoid perpetration of irregularities by a staff with dubious tendencies.

4. There should be a yearly personnel audit by the university authority in which each member of staff is made to supply information about himself/herself to be cross checked with previous information, so as to note any change(s) in status that had taken place. This will show the progress of the staff and any error found can be rectified. This will help in ascertaining the number of staff who are still in the service and the name of those who have absconded, resigned or retired eliminated.

5. the university authority should make effective use of Tender Board in appraising tender so that experience from members can help in obtaining better bargaining from the contractors.

6. When supplies are made by contractors such supplies should be inspected by the stores officer to ascertain quality and quantity and payment made only on what has been supplied.

7. Inventory consumes most of resources of an organisation and as such great care should be taken in handling inventory. Where inventories are kept entry should be restricted to avoid pilferage. Where irregularity is observed immediate investigation should be carried out to ascertain the cause of such, and any officer found guilty, even of negligence, should be surcharged for the loss of inventory. This will forestall a situation where dereliction of duty is taken for granted. Where stealing or an act of connivance involving a staff is established such staff should be made to replace the stolen item(s) and the law allowed to take its natural course. By so doing the source of wastage will be reduced in accordance with the principles of effective internal control system.

8. The university authority should review the existing internal control system of sales, purchases and inventory for the purpose of providing a basis for reliance thereon. This will help the auditors in determining the nature, timing and extent of audit test required in connection to the examination of financial statement.

9. Generally, accounting and internal audit staff should be encouraged by the university authority to belong to professional bodies which will help in enhancing their efficiency in their area of operation. This could be done through generous examination leave, reimbursement of tuition cost on successful completion of each stage of such professional examination, etc.

5.5 *Suggestion for Further Research*

It is therefore suggested that research into the area of Administrative Control be carried out especially in the areas of hierarchy and responsibility/motivation and performance within the university.

Furthermore, the government through Corporate Affairs Commission often places emphasis on the accounts of organisations being audited, but often than not certain organisations dread auditors and if possible would avoid their accounts being audited.

It is therefore suggested that research be conduct on:

i) Perception of the public about auditors;

ii) Impact of audit on financial operations of an organisation; and

iii) Attitude of auditors toward organisations.

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Appendix 1

Department of Vocational
and Technical Education,
Faculty of Education,
Ahmadu Bello University,
Zaria.

Dear Sir/Madam,

RESEARCH QUESTIONNAIRE

This questionnaire is designed for use in carrying on a research on the topic: "THE EVALUATION OF THE INTERNAL CONTROL SYSTEM OF THE ACCOUNTING UNIT OF AHMADU BELLO UNIVERSITY, ZARIA".

You are please requested to respond to the questions on this questionnaire as sincerely as possible. Your response will be kept strictly confidential and used only for this academic work.

Please kindly co-operate with the researcher in giving your sincere response to the questions/statements below, in order to assist him to produce a purposeful academic work.

Thanks.

AKPAN-EDEM, ATTAH D.

Which staff group do you belong ?

Please tick one ( )

EUSS 3 - 5 ( )

EUSS 6 - 8 ( )

EUSS 9 and above ( )

Which Department are you? Tick one ( )

Bursary ( ) Audit ( )

What is your qualification(s)? Please Tick ( )

WASC ( ) First Degree ( ) Masters Degree ( )

Ph.D ( ) Other Qualifications (State) .....

Below are some statements which at the end of each there are five (5) spaces number 5, 4, 3, 2, 1 representing very Strongly Agreed (VSA), Well Agreed (WA), Slightly Agreed (SA), Disagreed (D) and Strongly Disagreed (SD) respectively.

Please tick ( ) *only one space which corresponds to your appropriate* response.

		5 VSA	4 WA	3 SA	2 D	1 SD
A	**CASH**					
1.	A pre-numbered receipt is issued for every cash received.					
2.	Unused receipt booklets are kept under lock and key by a Senior Officer and Issued for the normal days' activity.					
3.	All Cash collected and receipted for are recorded in a cash analysis ledger					
4.	Staff do not exchange their personal cheques for cash					
5.	Cash books are checked by Senior Officer to prove that casts and cross casts are correct.					
6.	Daily cash taking is deposited into the bank intact on the day of collection					
7.	Incoming mail containing money is opened and recorded by at least two different persons in different ledgers.					
8.	There is a standing instruction that cheques, postal orders and money orders sent to the institution should be crossed "A/C Payee Only".					

		5 VSA	4 WA	3 SA	2 D	1 SD
9.	Receipt is prepared by the Cashier for the money received through mail.					
10.	Receipt to be sent out for money received through mail is cross-checked by some one else against the sum received.					
11.	Pay-in-slip (teller) is prepared by the cashier for the money collected to be paid into the bank.					
12.	Duplicate pay-in-slip (teller) is checked by an Officer for authenticity of stamping by the bank.					
13.	Till and Cash Book balances are cross checked by senior officer daily at the close of work.					
14.	Cashiers are engaged in posting entries from their cash book to the ledger.					
15.	Bank reconciliation statement is prepared at least once a month on every account and cross checked by Senior Officer.					
16.	Independent certificate of balance is obtained from the Bank monthly on every account.					
17.	Outstanding items of more than a month old in the reconciliation statement are usually thoroughly investigated to establish that they are genuine.					
18.	Cheques are issued sequentially and all spoilt ones retained and stamped cancelled by a Senior Officer.					
19.	The duties of cashier is rotated amongst staff.					
20.	Paid vouchers are stamped "paid" and cancelled to prevent re-presentation for payment.					
21.	Supporting documents are produced to each cheque signatory before cheque signing is done.					
22.	There is floating petty cash balance subject to imprest.					
23.	There is regular checking of petty cash balance and reconciliation.					

		5 VSA	4 WA	3 SA	2 D	1 SD
24.	There is usually a surprised cash count and till checking by the cash officer.					
25.	Payment from petty cash are only made by the authority of a senior officer and the voucher stamped "PAID" and dated to avoid duplicating payment.					
26.	All cheques issued are restrictively crossed "A/C Payee Only".					
27.	There are atleast two signatories to a cheque governed with authorized limit as to the value of the cheque to be signed.					
28.	Unused cheque books are kept under lock and key by a Senior Officer.					
29.	There is cheque booklet register where acquired cheque booklets are recorded as they come in and when issued.					
30.	All returned cheques which were collected from outsiders are properly traced and the appropriate account debited.					
B.	**PAYROLL**					
31.	Individual employee's records are maintained independent ofthe payroll section.					
32.	A written authorization is issued in every case of new employment.					
33.	Payroll section is duly notified by the personnel section of the a change in status and rate of pay of an employee.					
34.	All casual labour/temporary part-time employment payments are approved and made against proper documentation.					
35.	All payroll and payroll summaries are approved and initialled by a Senior Officer					
38.	Transfers between successive payrolls are usual reconciled in terms of number and value.					

		5 VSA	4 WA	3 SA	2 D	1 SD
39.	There is regular comparison of Wages and Salaries bills with budgets, cost records and other management information and significant variance investigated.					
40.	There is annual personnel review whereby employees are made to supply information on their current position/status.					
41.	Payment of entitlements/claims to staff are duly authorized by appropriate authority.					
42.	Payrolls are often checked by responsible officer so that names of those who have retired, resigned or died are duly removed from the payroll.					
43.	All cases of absconment is verified and names of those who have absconded removed from the payroll immediately.					
44.	Bank schedules are checked against the payrolls and casts and cross-casts confirmed and initialled by a responsible officer.					
45.	Payment of salaries by hand to certain categories of staff is not done by those who prepared their payrolls.					
46.	Unclaimed salaries are properly documented and paid back to the bank within three days.					
47.	Wages account is kept separate from other expenditure account in the Bank.					
48.	All payroll deductions are settled by cheque for onward transfer to appropriate organisation.					
49.	Non-Statutory payroll deductions are properly authorized by staff concerned.					
50.	Pay-As-You-Earn and other statutory deductions are reconciled regularly with returns to the Board of Internal Revenue (BIR).					

		5 VSA	4 WA	3 SA	2 D	1 SD
C	**SALES OF UNSERVICEABLE STORES**					
51.	Before conducting sales of unserviceable store information about the unserviceable stores is supplied by the Head of the Unit to the Accounting Officer of the institution.					
52.	Proper segregation of unserviceable articles is done and report given to the Accounting Officer.					
53.	The Accounting Officer usually inspect the items before adjudging them unserviceable and of sufficient quantity to constitute a Board of Survey.					
54.	Before conducting sales a Board of survey is constituted to inspect and adjudge the items unserviceable.					
55.	Appropriate Technical Office is used to advice the Accounting Officer on the stores to be disposed of.					
56.	Due authority is given by appropriate officer before the disposal of the unserviceable items.					
57.	Licensed auctioneer is appointed by the Board of Survey in all cases of auctioning.					
58.	The items to be auctioned are given the due publicity.					
59.	Where public auctioneer is not appointed public tender is invited.					
60.	Report on the procedure and the items disposed of is compiled for future references.					
D.	**PURCHASE/PROCUREMENT**					
61.	Every purchase commitment is initiated on the basis of request and felt need of a particular department.					
62.	Request from duly authorized is sent out the purchasing department.					
63.	Purchasing authorization is submitted to the Purchasing Officer with enough lead time.					

		5 VSA	4 WA	3 SA	2 D	1 SD
64.	Local purchasing order is prepared for the purchase of items within expenditure limit approved for the officer.					
65.	Every bill is submitted with original and duplicate of the purchase order by the supplier.					
66.	Tender Board is constituted for purchases of items in excess of amount fixed for approval by individual officers.					
67.	Tender is invited and considered by tender board.					
68.	Only the supplier who satisfies the Tender Board that the items required will be supplied in the right quality, quantity, price and time is awarded the supplies contract.					
69.	The supplies is said to be satisfactory through inspection by appropriate officer.					
70.	Payment is usually made after a satisfactory execution of the contract.					
E.	**INVENTORY**					
71.	All inventories and materials supplied are verified against invoice and certified correct.					
72.	All movement of inventories is properly approved and detail record kept.					
73.	All requisition for inventories is authorized by Senior Officer.					
74.	Every inventory has a bin card for proper recording.					
75.	Stock ledger is posted as soon as inventory is issued.					
76.	Stores receiving Voucher is issued for every inventory received.					
77.	Regular stock taking is carried out in accordance to the institutions policy.					
78.	Any discrepancy between physical stock and the balance in ledger is investigated.					
79.	Loss of inventory is reported promptly to the accounting officer.					
80.	Any Officer responsible for the loss of inventory is surcharged appropriately.					

APPENDIX II

The frequency of responses and the Mean Rating Score of Respondents' Responses on Cash Control and Cash Audit.

(X)	BURSARY STAFF = 90							(Y) AUDIT STAFF = 10						
S/N	5	4	3	2	1	Σ	$\overline{X}$	5	4	3	2	1	Σ	$\overline{Y}$
1	72	8	8	2	-	420	4.7	5	2	-	3	-	39	3.9
2	84	4	2	-	-	442	4.9	5	5	-	-	-	45	4.5
3	68	16	6	-	-	422	4.7	3	2	5	-	-	38	3.8
4	16	6	40	20	3	272	3.0	-	5	5	-	-	2.5	3.5
5	60	8	20	2	-	274	4.4	-	6	4	-	-	36	3.6
6	36	12	24	12	6	330	3.7	7	2	1	-	-	38	4.6
7	16	8	40	20	6	278	3.1	-	8	-	2	-	36	3.6
8	60	8	4	8	10	370	4.1	3	2	5	-	-	38	3.8
9	44	20	8	8	10	350	3.9	-	8	2	-	-	38	3.8
10	40	12	24	4	10	338	3.8	3	2	5	-	-	38	3.8
11	68	8	4	4	6	398	4.4	5	5	-	-	-	45	4.5
12	64	12	12	-	2	406	4.5	-	5	-	5	-	30	3.0
13	28	12	32	12	6	314	3.5	-	5	5	-	-	35	3.5
14	24	12	36	16	2	310	3.4	2	1	2	5	-	30	3.0
15	36	20	32	2	-	360	4.0	5	5	-	-	-	45	4.5
16	44	12	28	6	-	364	4.0	2	6	2	-	-	40	4.0
17	36	28	20	6	-	354	3.9	3	5	2	-	-	41	4.1
18	52	8	12	8	10	354	3.9	-	3	7	-	-	33	3.3
19	36	12	24	18	-	336	3.7	-	5	2	3	-	32	3.2
20	56	16	12	-	6	386	4.3	2	3	1	2	2	31	3.1
21	60	16	14	-	-	406	4.5	3	5	-	2	-	39	3.9
22	40	28	22	-	-	378	4.2	5	3	2	-	-	43	4.3
23	60	8	20	2	-	400	4.4	-	6	4	-	-	36	3.6
24	64	20	6	-	-	418	4.6	3	5	2	-	-	41	4.1
25	68	16	4	2	-	420	4.7	3	3	2	2	-	37	3.7
26	44	8	20	12	6	342	3.8	5	3	2	-	-	43	4.3
27	68	12	4	4	2	410	4.6	8	2	-	-	-	48	4.8
28	68	12	8	2	-	416	4.6	3	7	-	-	-	43	4.3
29	68	12	10	-	-	418	4.6	-	8	2	-	-	38	3.8
30	48	12	20	8	2	366	4.1	-	10	-	-	-	40	4.0

APPENDIX III

The Frequency of Responses and the mean rating score of Respondents' Responses on payroll Control and payroll Audit.

	(X) BURSARY STAFF = 90							(Y) AUDIT STAFF = 10						
S/N	5	4	3	2	1	Σ	$\overline{X}$	5	4	3	2	1	Σ	$\overline{Y}$
31	60	16	14	-	-	406	4.5	3	7	-	-	-	43	4.3
32	68	8	8	4	2	406	4.5	5	5	-	-	-	45	4.5
33	76	8	4	2	-	428	4.8	5	5	-	-	-	45	4.5
34	68	12	8	2	-	416	4.6	-	8	2	-	-	38	3.8
35	68	8	12	2	-	412	4.6	2	5	3	-	-	39	3.9
36	24	16	36	4	10	310	3.4	-	-	5	5	-	25	2.5
37	48	16	20	4	2	374	4.2	-	5	2	3	-	32	3.2
38	52	12	16	4	6	370	4.1	-	5	5	-	-	35	3.5
39	48	16	20	6	-	376	4.2	3	3	4	-	-	39	3.9
40	40	8	32	8	2	346	3.8	5	3	2	-	-	43	4.3
41	76	12	2	-	-	434	4.8	8	2	-	-	-	48	4.8
42	72	12	6	-	-	426	4.7	8	2	-	-	-	48	4.8
43	40	8	20	2	20	296	3.3	3	4	3	-	-	40	4.0
44	68	16	6	-	-	422	4.7	3	7	-	-	-	43	4.3
45	52	12	16	8	2	374	4.2	8	2	-	-	-	48	4.8
46	32	20	12	20	6	322	3.6	-	2	8	-	-	32	3.2
47	64	8	12	-	6	394	4.4	2	6	2	-	-	40	4.0
48	44	-	32	8	6	338	3.8	5	5	-	-	-	45	4.5
49	40	8	20	8	14	322	3.6	-	7	3	-	-	37	3.7
50	52	4	16	4	14	346	3.8	4	6	-	-	-	44	4.4

APPENDIX IV

The frequency of Responses and the mean rating score of respondents' responses on sales Control and Sales Audit.

(X) BURSARY STAFF = 90								*(Y) AUDIT STAFF = 10*						
S/N	5	4	3	2	1	Σ	$\overline{X}$	5	4	3	2	1	Σ	$\overline{Y}$
51	52	12	24	-	2	380	4.2	3	2	5	-	-	38	3.8
52	40	16	32	2	-	364	4.0	-	3	7	-	-	33	3.3
53	36	12	28	8	6	334	3.7	3	5	2	-	-	41	4.1
54	48	16	20	6	-	376	4.2	5	3	2	-	-	43	4.3
55	40	12	20	16	2	342	3.8	3	3	4	-	-	39	3.9
56	56	12	12	10	-	384	4.3	5	2	3	-	-	42	4.2
57	32	16	24	18	-	332	3.7	3	5	2	-	-	41	4.1
58	32	16	16	24	2	322	3.6	2	6	-	2	-	38	3.8
59	32	16	20	16	6	326	3.6	-	6	2	2	-	34	3.4
60	40	12	32	4	2	354	3.9	6	2	2	-	-	44	4.4

APPENDIX V

The Frequency of responses and the mean rating score of respondents' responses on purchases control and purchases audit.

(X) BURSARY STAFF = 90								(Y) AUDIT STAFF = 10						
S/N	5	4	3	2	1	Σ	$\overline{X}$	5	4	3	2	1	Σ	$\overline{Y}$
61	48	12	28	2	-	376	4.2	-	7	3	-	-	37	3.7
62	48	12	24	4	2	370	4.1	6	2	2	-	-	44	4.4
63	48	12	28	2	-	376	4.2	-	8	2	-	-	38	3.8
64	52	8	20	10	-	372	4.1	8	2	-	-	-	42	4.2
65	40	16	24	8	2	338	3.8	2	6	2	-	-	40	4.0
66	28	12	36	4	10	314	3.5	-	3	7	-	-	33	3.3
67	32	12	28	18	-	328	3.6	3	5	2	-	-	41	4.1
68	32	24	16	16	2	338	3.8	3	3	2	2	-	37	3.7
69	32	12	28	16	2	326	3.6	5	2	3	-	-	32	3.2
70	52		32	4	2	366	4.1	6	2	2	-	-	44	4.4

APPENDIX VI

The frequency of Responses and the Mean Rating Score of Respondents' Responses on Inventory Control and Inventory Audit.

	(X) BURSARY STAFF = 90							(Y) AUDIT STAFF =10						
S/N	5	4	3	2	1	Σ	$\bar{X}$	5	4	3	2	1	Σ	$\bar{Y}$
71	60	12	18	-	-	402	4.5	6	4	-	-	-	46	4.6
72	52	16	22	-	-	390	4.3	3	2	5	-	-	38	3.8
73	56	16	16	2	-	396	4.4	5	5	-	-	-	45	4.5
74	44	20	24	-	2	374	4.2	-	8	2	-	-	38	3.8
75	52	12	24	-	2	382	4.2	-	8	2	-	-	38	3.8
76	44	12	28	6	-	364	4.0	2	5	3	-	-	39	3.9
77	48	12	20	10	-	368	4.1	3	5	-	2	-	39	3.9
78	48	12	24	6	-	376	4.1	8	-	2	-	-	46	4.6
79	44	16	20	10	-	364	4.0	-	6	4	-	-	36	3.6
80	28	24	20	18	-	332	3.7	-	3	2	3	2	26	2.6

APPENDIX VII

CORRELATION ANALYSIS OF RESPONDENTS' MEAN SCORE ON EFFECTIVE CASH CONTROL AND EFFICIENT CASH AUDIT

X	Y	X^2	Y^2	XY
4.7	3.9	22.09	15.21	18.33
4.9	4.5	24.01	20.25	22.05
4.7	3.8	22.09	14.44	17.86
3.0	3.5	9.00	12.25	10.50
4.4	3.6	19.36	12.96	15.84
3.7	4.6	13.69	21.16	19.02
3.1	3.6	9.61	12.96	11.16
4.1	3.8	16.81	14.44	15.58
3.9	3.8	15.21	14.44	14.82
3.8	3.8	14.44	14.44	14.44
4.4	4.5	19.36	20.25	19.80
4.5	3.0	20.25	9.00	13.50
3.5	3.5	12.25	12.25	12.25
4.5	3.0	20.25	9.00	13.50
4.0	4.5	16.00	20.25	18.00
4.0	4.0	16.00	16.00	16.00
3.9	4.1	15.21	16.81	15.99
3.9	3.3	15.21	10.89	12.87
3.7	3.2	13.69	10.29	11.84
4.3	3.1	18.49	9.61	13.33
4.5	3.9	20.25	15.21	17.55
4.2	4.3	17.64	18.49	18.08
4.4	3.6	19.36	12.96	15.84
4.6	4.1	21.16	16.81	18.86
4.7	3.7	22.09	13.69	17.39
3.8	4.3	14.44	18.49	16.34
4.6	4.8	21.16	23.04	22.08
4.6	4.3	21.16	18.49	19.78
4.6	3.8	21.16	14.44	17.48
4.1	4.0	16.81	16.00	16.40
125.2	115.9	528.25	454.52	486.48

APPENDIX VII (CONTD.)

$$r = \frac{N\Sigma XY - \Sigma X\Sigma Y}{\sqrt{[N\Sigma X^2 - (\Sigma X)^2][N\Sigma Y^2 - (\Sigma Y)^2]}}$$

$$r = \frac{30(486.48) - (125.2)(115.9)}{\sqrt{[30(528.25) - (125.2)^2][30(454.52) - (115.9)^2]}}$$

$$r = \frac{14594 - 14510.68}{\sqrt{[15847.50 - 15675.04][13636.60 - 13432.81]}}$$

$$r = \frac{83.72}{\sqrt{[172.46][203.79]}}$$

$$r = \frac{83.72}{\sqrt{35145.62}} = \frac{83.72}{187.5}$$

$r = 0.45$ $\quad r^2 = 0.20$

TEST OF SIGNIFICANT RELATIONSHIP:

$$t = \frac{r\sqrt{n - 2}}{\sqrt{n - r^2}}$$

$$t = \frac{0.45\sqrt{30 - 2}}{\sqrt{1 - 0.20}} = t = \frac{0.45\sqrt{28}}{\sqrt{1 - 0.20}}$$

$$t = \frac{0.45\ (5.29)}{\sqrt{0.80}} = \frac{2.38}{0.89} = 2.67$$

T-Cal. = 2.67

T-Crit. = 1.70

APPENDIX VIII

CORRELATION ANALYSIS OF RESPONDENTS' MEAN SCORE ON EFFECTIVE PAYROLL CONTROL AND EFFICIENT PAYROLL AUDIT

X	Y	XR	YR	D	D^2
4.5	4.3	7.5	9.0	-1.5	2.25
4.5	4.5	7.5	5.0	2.5	6.25
4.8	4.5	1.5	5.0	-3.5	12.25
4.6	3.8	5.5	15.0	-9.5	90.25
4.6	3.9	5.5	13.5	-8.0	64.00
3.4	2.5	19.0	20.0	-1.0	1.00
4.2	3.2	11.0	18.5	-7.5	56.25
4.1	3.5	15.0	17.0	-4.0	16.00
4.2	3.9	11.0	13.5	-2.5	6.25
3.8	4.3	15.0	9.0	6.0	36.00
4.8	4.8	1.5	2.0	-0.5	0.25
4.7	4.8	3.5	2.0	1.5	2.25
3.3	4.0	20.0	11.5	8.5	72.25
4.7	4.3	3.5	9.0	-5.5	30.25
4.2	4.8	11.0	2.0	9.0	81.00
3.6	3.2	17.5	18.5	-1.0	1.00
4.4	4.0	9.0	11.5	-2.5	6.25
3.8	4.5	15.0	5.0	10.0	100.00
3.6	3.7	17.5	16.0	1.5	2.25
3.8	4.4	15.0	7.0	8.0	64.00
				ΣD^2 =	**650.00**

APPENDIX VIII (CONTD.)

$$R = 1 - \frac{6\Sigma D^2}{N(N^2 - 1)}$$

$$= 1 - \frac{6(650)}{20(20^2 - 1)} = 1 - \frac{3900}{20(400 - 1)}$$

$$= 1 - \frac{3900}{7890}$$

$$R = 1 - 0.49 = 0.51$$

$$R^2 = (0.51)^2 = 0.26$$

TEST OF SIGNIFICANT RELATIONSHIP:

$$t = \frac{r\sqrt{n - 2}}{\sqrt{n - r^2}}$$

$$t = \frac{0.51\sqrt{20 - 2}}{\sqrt{1 - 0.26}} = t = \frac{0.51\sqrt{18}}{\sqrt{1 - 0.74}}$$

$$t = \frac{0.51\ (4.24)}{\sqrt{0.86}} = \frac{2.16}{0.86} = 2.51$$

T-Cal. = 2.51

T-Crit. = 1.73

APPENDIX IX

CORRELATION ANALYSIS OF RESPONDENTS' MEAN SCORE ON EFFECTIVE SALES CONTROL AND EFFICIENT SALES AUDIT

X	Y	XR	YR	D	D^2
4.2	3.8	2.5	7.5	-5.0	25.00
4.0	3.3	4.0	10.0	-6.0	36.00
3.7	4.1	7.5	4.5	3.0	9.00
4.2	4.3	2.5	2.0	0.5	0.25
3.8	3.9	6.0	6.0	0.0	0.00
4.3	4.2	1.0	3.0	-2.0	4.00
3.7	4.1	7.5	4.5	3.0	9.00
3.6	3.8	9.5	7.5	2.0	4.00
3.6	3.4	9.5	9.0	0.5	0.25
3.9	4.4	5.0	1.0	4.0	16.00
			ΣD^2	=	**103.50**

$$R = 1 - \frac{6\Sigma D^2}{N(N^2 - 1)}$$

$$= 1 - \frac{6(103.50)}{10(10^2 - 1)} = 1 - \frac{621}{10(100 - 1)}$$

$$= 1 - \frac{621}{990}$$

$$R = 1 - 0.63 = 0.37$$

$$R^2 = (0.37)^2 = 0.14$$

TEST OF SIGNIFICANT RELATIONSHIP:

$$t = \frac{r\sqrt{n - 2}}{\sqrt{n - r^2}}$$

$$t = \frac{0.37\sqrt{10 - 2}}{\sqrt{1 - 0.26}} = t = \frac{0.37\sqrt{8}}{\sqrt{0.84}}$$

$$t = \frac{0.37(2.83)}{0.92} = \frac{1.05}{0.92} = 1.14$$

T-Cal. = 1.14 T-Crit. = 2.31

APPENDIX X
CORRELATION ANALYSIS OF RESPONDENTS' MEAN SCORE ON EFFECTIVE PURCHASES CONTROL AND EFFICIENT PURCHASES AUDIT

X	Y	XR	YR	D	D^2
4.2	3.7	1.5	7.5	-6.0	36.00
4.1	4.4	4.0	1.5	2.5	6.25
4.2	3.8	1.5	6.0	-4.5	20.25
4.1	4.2	4.0	3.0	1.0	1.00
3.8	4.0	6.5	5.0	1.5	2.25
3.5	3.3	10.0	9.0	1.0	1.00
3.6	4.1	8.5	4.0	4.5	20.25
3.8	3.7	6.5	7.5	-1.0	1.00
3.6	3.2	8.5	10.0	-1.5	2.25
4.1	4.4	4.0	1.5	2.5	6.25
				ΣD^2 =	**96.5**

$$R = 1 - \frac{6\Sigma D^2}{N(N^2 - 1)}$$

$$= 1 - \frac{6(96.50)}{10(10^2 - 1)} = 1 - \frac{579}{10(100 - 1)}$$

$$= 1 - \frac{579}{990}$$

$$R = 1 - 0.58 = 0.42$$

$$R^2 = (0.42)^2 = 0.1764 = 0.18$$

TEST OF SIGNIFICANT RELATIONSHIP:

$$t = \frac{r\sqrt{n - 2}}{\sqrt{n - r^2}}$$

$$t = \frac{0.42\sqrt{10 - 2}}{\sqrt{1 - 0.18}} = t = \frac{0.42\sqrt{8}}{\sqrt{0.82}}$$

$$t = \frac{0.42(2.83)}{0.91} = \frac{1.19}{0.91} = 2.1$$

T-Cal. = 2.10 T-Crit. = 2.31

Appendix XI

Correlation Analysis of Respondents' mean Score On Effective Inventory Control and Efficient Audit

X	Y	XR	YR	D	D^2
4.5	4.6	1.0	1.5	-0.5	0.25
4.3	3.8	3.0	7.0	-4.0	16.00
4.4	4.5	2.0	3.0	-1.0	1.00
4.2	3.8	4.5	7.0	-2.5	6.25
4.2	3.8	4.5	7.0	-2.5	6.25
4.0	3.9	8.5	4.5	4.0	16.00
4.1	3.9	6.5	4.5	2.0	4.00
4.1	4.6	6.5	1.5	5.0	25.00
4.0	3.6	8.5	9.0	0.5	0.25
3.7	2.6	10.0	10.0	0.0	0.00
					$\Sigma D^2 = 75.00$

$$R = 1 - \frac{6\Sigma D^2}{N(N^2 - 1)} = 1 - \frac{6(75)}{10(10^2 - 1)}$$

$$R = 1 - \frac{450}{10(100 - 1)} = 1 - \frac{450}{990}$$

$$R = 1 - 0.45$$

$$R = 0.55$$

$$R^2 = (0.55)^2 = 0.3025$$

$$R^2 = 0.30$$

TEST OF SIGNIFICANT RELATIONSHIP:

$$t = \frac{r\sqrt{n - 2}}{\sqrt{1 - r^2}}$$

$$t = 0.55 \frac{\sqrt{10 - 2}}{\sqrt{1 - 0.30}} = \frac{0.55\sqrt{8}}{0.70} = \frac{0.55(2.83)}{0.84}$$

$$t = \frac{1.56}{0.84} = 1.86$$

t-Cal. = 1.86

t-Crit. = 2.31