

KWAME NKURUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

COLLEGE OF ART AND SOCIAL SCIENCE

KNUSTSCHOOL OF BUSINESS

**AN EXAMINATION OF THE RELATIONSHIP BETWEEN INTERNAL
CONTROL SYSTEMS AND INTERNAL AUDIT IN GOVERNMENT
AGENCIES: A CASE STUDY OF SOME SELECTED GOVERNMENT
AGENCIES IN THE BRONG AHAFO REGION**

BY

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A thesis submitted to the department of Accounting and Finance, School of Business,
Kwame Nkrumah University of Science and Technology, in partial fulfillment of the
requirements for the degree of MASTER OF BUSINESS ADMINISTRATION

(ACCOUNTING)

JULY, 2015.

DECLARATION

I hereby declare that this submission is my own work towards the Master of Business Administration (Accounting) and that, to the best of my knowledge, it contains no materials previously published by another person nor material which has been accepted for the reward of any other degree of the university, except where due acknowledgement has been made in the text.

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DEDICATION

I dedicate this thesis to my wife and children.

ACKNOWLEDGEMENT

I wish to express my sincerest gratitude to the Almighty God for his abundant grace he showered on me from the beginning of this course to the end of it culminating into the writing of this project work. I would also like to express my profound gratitude to my supervisor, Mr. Joseph Agana for his support, advice, guidance and encouragement. His contribution to the development of this research, both in terms of intellectual insight and comments were essential for the success of this work. I am so much indebted to my family for their love, understanding, support and encouragement throughout the course and thesis.

ABSTRACT

The study investigates the impact of integrated internal control systems on internal audit processes in public sector institutions. In this regard, six inherent hypotheses were proposed by the use of a model represented by five independent variables (control environment, communication, risk assessment, control activities and monitoring) and one dependent variable (internal audit). Using stepwise regression approach to Ordinary Least Squares analysis, the findings revealed that the internal control mechanisms have significant positive influence on the internal auditing activities in the public sector institutions.

Also, some of the predictive variables were not significant when they were considered under the individual component of the internal control system but they were significant when they were considered as a whole. Thus, in order for public institutions to improve their internal audit processes, internal control processes must be revised and fully integrated to smoothing the activities of internal auditors in the public institutions.

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The expansion of companies in size and scope has led to the separation of ownership from control where shareholders (owners) entrust the care of their businesses in hands of managers (control), who sees to the day to day administration of the businesses. This has necessitated the implementation of internal controls systems in organizations to achieve its objectives. Internal control theory (Curtis *et al.*, 2011) has undergone significant changes and amendments since 1988. The Committee of Sponsoring Organizations (COSO) in 1993 developed an Integrated Framework of Internal Control which comprises of five main components such as risk assessment, control environment, information and communication, control activities, and monitoring which are in line with the findings of Tankiet *al* (1993). Internal control (Curtis *et al.*, 2011), within the context of accounting is usually seen as a tool to stimulate reliable and fair reporting of financial information. The importance of Internal control is mostly understated and not well understood by people (Halstead and FairBrother, 2007) even though it plays an effective role in ensuring order, direction and consistency in every organization. Defining internal control in the context of its effect on the financial performance of every organizations including government agencies in Ghana will help answer the question with respect to why it is usually less recognized. Internal control system is now gaining attention as a necessary tool needed to promote corporate financial performance but an integrated internal control system covering all functions within an organization is yet to be developed. Having an effective internal control system can help promote accountability within every organization including

government agencies. Internal controls are usually implemented within every organization and their monitoring becomes the responsibility of the internal audit department in order to ensure that the organization is moving effectively and efficiently while minimizing risks associated with its activities. There is therefore the need for effective internal controls in every establishment because they play significant roles in every organization. Internal controls are usually seen as key in answering various problems within every organization (Oliverio and Ellen, 2001) in addition to their ability to improve the financial performance of public agencies such as Controller and Accountant General Department, Ghana Audit Service, MMDAs and Ghana Revenue Authority by means of the vigilance of the internal audit.

1.2 Problem Statement

The impact of integrated internal control system on the internal audit of government agencies in Ghana is unknown because there has not been enough research in Ghana within this area. There has been a lot of research in the area of internal control system such as Aikins (2011); Baltaci and Yilmaz, (2006); Eko and Hariyanto, (2011); Fenget al, (2009); Kwanbo, (2009) and Nilniyom and Chanthinok, (2011) but there has not been enough research regarding the relationship between internal control systems and internal audit within public departments. However, due to the important roles government agencies such as Controller and Accountant General Department, Ghana Audit Service, MMDAs and Ghana Revenue Authority play in Ghana; there is the need to ensure their effective and efficient operations by enforcing effective and efficient internal control systems and internal audit system that can enhance their financial performance. Internal control system and internal audit are not usually regarded as among the factors that determine the financial performance of an organization. A study by Ensign Business Report (2009) indicated that internal

control system and its counterpart internal audit system are not usually given recognition like the other functions of an organization such as production, sales, human resource management, information technology, marketing, accounting and finance, research and development and distribution. Also, Gursoy and Swanger (2007) did not include internal control system as one of the internal strategic factors that can influence the financial performance of a company. This results in the need to examine the relationship between internal audit and internal control system. Hence, there is the need for this research to examine the relationship between internal control systems and internal audit in government agencies.

1.3 Research Objectives

This study seeks to assess the relationship between internal control systems and internal audit using some selected government departments within Brong Ahafo region. In order to achieve this main objective, the following specific objectives have been developed;

1. To establish the impact of Control environment on internal audit of government agencies in Ghana.
2. To ascertain the impact that risk assessment has on the internal audit of government agencies in Ghana.
3. To determine the influence of Control activities on internal audit of government agencies in Ghana.
4. To identify the relationship between information and communication and the internal audit performance of government agencies in Ghana.
5. To discover the effect of monitoring on the internal audit performance of government agencies in Ghana.

1.4 Research Questions

1. What is the impact of Control environment on internal audit of government agencies in Ghana?
2. What impact does Risk assessment have on the internal audit of government agencies in Ghana?
3. What is the influence of Control activities on internal audit of government agencies in Ghana?
4. What is the relationship between information and communication and the internal audit performance of government agencies in Ghana?
5. What is the effect of monitoring on the internal audit performance of government agencies in Ghana?

1.5 Scope of the Study.

This study covers all the government agencies within the Brong Ahafo region of Ghana. The work focused on internal control systems and internal audit of some selected government agencies. A sample of 80 respondents has been selected for the study. Data collected has been analyzed using multiple regression analysis.

1.6 Justification of the Study

This study will enable auditors of government agencies to always take into account those factors that have the potential to influence the financial performance of their operations during their auditing process. This study will provide the foundation for further advancements to be made to the existing literature in this subject area. Internal control assessment in the light of internal audit can help government agencies to operate effectively and efficiently. It can help ensure effective and efficient use of

resources in within government departments. Also, this study will draw the attention of government agencies to the important role internal controls and internal audit play in organizations and the need to develop and implement effective internal controls in order to safeguard State resources. This study will also help ensure that integrated internal control systems are operating effectively and efficiently within government departments in order to enable internal auditors to discharge their duties satisfactorily.

1.7 Limitations of the Study

This study has used subjective measures of internal control variables instead of objective measures because there has not been a scientific way of determining the variables that constitute an effective internal control system. This is a perceptual study but not objective study which is based on organizational records. So the possibility of perceptual bias cannot be ruled out. Thus there is the possibility for some respondents giving wrong responses.

Secondly, the measurement items used in this study are not absolute as there are other items worth considering when it comes to effective internal control.

The findings would be aggregated implying that the performance of individual government agencies could not be assessed separately.

1.8 Organization of the Study.

The research is divided into five chapters. Chapter one deals with the introduction which covers the background of the study, problem statement, research questions, research objectives as well as justification for study among others. Chapter two covers literature review. Chapter three of this study will deal with the method of data collection, the population sampling, data analysis procedures and the instruments used for the study. Chapter four covers data analysis. The summary of the main findings of the study are covered by chapter five.

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview of the Concept of Internal Control and Internal Audit.

The rise in accounting malpractices in recent years (Prawitt *et al.* 2008) has resulted in more consideration being given to the internal audit function as playing a significant role in ensuring effective corporate governance and financial reporting. Internal control is seen as an effective tool (Verdina, 2011) in ensuring supervision over the carrying out of plans and taking necessary correction. Internal control system issues are considered significant to organizations particularly in ensuring reliability and accuracy of the financial reports (Changchit, *et al.*, 2001) but it is still an area that receives too little attention in the management literature. According to Jokipii, (2010) there is the need for more research to be conducted in the area of the effect of effective internal control system on internal auditing activities. In addition, the subject of effectiveness of internal audit is crucial in creating improvement in the government agencies (Unegbu and Kida, 2011). This has resulted in more attention been given to the measurement of the effectiveness of internal audit function In line with this, there is the need for an assessment of internal audit since it has a role to play in realizing local objective. There is the need for future research to be conducted (Arena and Azzone (2010), Chaveerug (2011) and Mihret *et al.*, (2010)) in order to examine the determinants of internal audit effectiveness and the way they interact among themselves.

2.2 Internal Control System.

Internal control system is the integration of the policies, plans, attitudes, activities, and efforts of the people of an organization (Halstead and Fairbrother, 2007) working together to provide in order to ensure that the organization accomplishes its objectives and mission. This covers all people in the organization, processes as well as physical structures. This implies that internal controls are dependent upon people and their success or failure is based on the attention people will give to them and will therefore operate effectively when there is coordination between all the people and the surrounding environment as a whole. In addition, the system provides a level of comfort to an organization. The fact that there are internal controls does not guarantee success for the organization.

As noted by COSO's framework 69 (2012), internal control is a process, effected by an entity's board of directors, management, and other personnel, designed to provide reasonable assurance regarding the achievement of objectives in the following categories: effectiveness and efficiency of operations, reliability of financial reporting. Compliance with applicable laws and regulations. This definition stresses several key concepts such as "process," "reasonable assurance," and the "objectives" of internal control. Internal control is a process because it is to be planned, executed, and monitored by the board of directors and management of an entity as a part of the management process and because it is the sum of a series of actions that permeate an entity's business processes. Internal control can provide only reasonable, not absolute, assurance regarding the achievement of an entity's objectives. An entity's objectives for internal control include not only reliability of financial reporting and compliance with applicable laws and regulations, but also effectiveness and efficiency of operations. The former focuses on the fair presentation of financial information

regarding an entity's financial condition, results of operations, and cash flows, while the latter aims at an entity's profitability and survival.

2.3 Interrelatedness of the Components of Internal Control System.

Weak control environment (Bonnie and Klamm, 2009) has a positive relationship with risk assessment, control activities, information and communication, and monitoring components. Also, there is positive relationship between a weak risk assessment component and a weak control activities component. The overall result is that if all the components of internal control are weak, they will be a positive relationship among them.

A study by Oliverio (2001) and COSO (2012) concluded that all the members of an organization have responsibility for ensuring the effectiveness of their internal controls. Her position confirmed an earlier position of the Committee of Sponsoring Organizations.

2.4 Effectiveness of Internal Control System

The effectiveness of internal control system (Al-Twaijry *et al.* 2004) enables external auditors to depend on the work of internal auditors and as such helps improve their effectiveness in carrying out their activities. Internal control systems should be seen as essential component of government agencies management processes in order to ensure that the operations of these agencies are carried out efficiently and effectively. Effective internal controls systems are critical to the effectiveness of government agencies operations since it covers the activities and procedures that are developed to

provide assurance that plans are being carried out effectively in ensuring the effectiveness of internal audit as a whole.

Candrea, (2006) and Sudsomboon and Ussahawanitchakit, (2009) noted that the basic principles representing the essential concepts of effective internal control are provided by COSO to comprise five components within the framework. It has been disputed that the weakness of the COSO mechanism (Amudo and Inanga (2009) is its inability to recognize Information Technology as one of the major control components of internal control system but Information Technology is very vital to internal control framework in every organization resulting in most organizations recently using Information Technology for authorization, initiation, recording and processing of transactions in order to ensure effectiveness of the internal control system. Developments in technology (Rezaeet al, 2001) have increased the attention place on internal controls system in organizations.

For any internal control system to accomplish organizational objectives (COSO, 2012), there is the need for the following components to be present and functioning effectively;

Control environment: the major aspect of managing an organization is the control environment (Theofanis, *et al.* 2011) because it reflects management attitude and the policies regarding the relevance of internal audit in the organization and also it influences organization goals attainment (Aldridge and Colbert, 1994). It is however the starting point (Sudsomboon and Ussahawanitchakit, 2009) for the other components of internal control. Control environment helps in reducing the level of

fraudulent activities within organization operations and also improving on the quality of an entity's internal controls system (Amudo and Inanga, 2009) is influence by the function and quality of their control environment.

Risk assessment: involves identifying and analysing relevant risks (Theofanis, *et al.* 2011) associated with the realization of the business objectives of management. Sudsomboon and Ussahawanitchakit, (2009) also stated that risk assessment involves identifying and analyzing relevant management risks associated with the preparation of financial statements to comply with generally accepted accounting principle. Government agencies are thus expected regularly assess the level of risk they are facing so that necessary actions can be taken to avoid or reduce such risks.

Control activities: as noted by Aikins, (2011) control activities comprises policies, procedures and mechanisms aimed at ensuring that management's directives are effectively carry out (Rezaec, *et al.* 2001). Ensuring proper documentation of policies and procedural guidelines (Aikins, 2011) in these aspects assist in determining how the control activities are to be carried out as well as the provision of adequate information for auditors to examine the appropriateness of controls designed over financial management practices. These control activities helps in ensuring that appropriate measures are put in place in order to respond to risks so that organizational objectives can be accomplished. Control activities encompass separation of duties, depositing cash receipts on daily basis, undertaking bank reconciliations and restricting access to check stock.

Information and communication: it is concerned with the identifying, capturing, and communicating of relevant information (Aldridge and Colbert, 1994) in a suitable manner and on time so that financial reporting objectives can be achieved. There is the need for proper communication to be carried out (Theofanis *et al*, 2011) within the various departments and sections of the organization. Amudo and Inanga, (2009) noted that information and communication is a component of internal control system due to their ability to influence the working relationship within the organization at all the operational and managerial levels in order to help attain the objectives of the organization. In order for the employees of an organization to carry out their tasks and responsibilities effectively towards the achievement of the objectives of the organization, information has to be communicated to all the divisions and departments within the organization.

Monitoring: there is the need for internal control systems to be adequately monitored (Theofanis *et al*, 2011) when appraising the quality and effectiveness of the system's performance over time. Monitoring provides guarantee that the findings of audits and other reviews (Theofanis *et al*, 2011) are accurately carried out and that the internal control systems are functioning effectively throughout the entire organization (Amudo and Inanga, 2009). Therefore, monitoring will reveal whether the policies and procedures designed and implemented by management are being carried out by the employees of the organization effectively.

2.5 Internal Audit

With reference to Hirth, (2009) internal audit is defined as a consulting activity which is independent and assurance of objectivity, which is designed to ensure value improvement in an organizational operation. That makes it possible for organization

to accomplish its objective, through a systematic and control approach, which seek to evaluate, detect and improve the effectiveness of management risk process rectification in governance. Internal auditing is a managerial function, which acts as a control in evaluating and ensuring adequacy, Effectiveness and efficiency of a corporate set up, (CBE, 2006). Organization internal auditing controls are internal system that serves as the plan of control for an organization.

2.5.1 How Internal Audit Delivers Benefits

Most Institutions presently rely on internal audit to provide assurance of no risk and compliance processes and internal control. In Rao, (2009), he argues that internal audit helps Institutions identify and assess the risks they might face in achieving their business objectives and be better prepared for potential risk. Secondly, in the opinion of Yang and Chen, (2010), internal audit function to ensure Controls Evaluation and Remediation. Institutions can assess whether the controls which include policies and procedures they have put in place are adequate to mitigate the identified risks. In addition, according to Yu and Tian, (2009), enhanced Regulatory Compliance with regulations as well as internal policies and procedures is often a key result of the involvement of internal audit. A constant focus on this area through the internal audit function can help management promote a culture of “compliance consciousness” where compliance occurs as a part of everyone’s daily work rather than as a separate process. Thirdly, improved process effectiveness and efficiency has been reported in LaFond, *et al* (2008) as one of the benefits that come with internal audit. They were convinced that over time bad habits tend to creep into business processes and with changes in the business environment and personnel turn over, processes might become inefficient and have redundant steps. Internal audit can also help enhance the

effectiveness and efficiency of processes by taking a fresh look periodically and identifying such redundancy (Hodder, *et al.* 2008). Finally, Deloitte (2009), is confident that assurance to management, the Board and other stakeholders are the reason for the existence of internal audit. One of the most important benefits of internal audit is to provide assurance to management, the Audit Committee, Board of Directors and external stakeholders that the institution has a strong control environment that sufficiently mitigates the myriad risks it faces and contributes towards meeting business objectives

2.5.2 Internal Audit Activity Scope

This subsection focuses on the current and future nature and scope of the internal audit activity. Using the data collected from Alkafajiet *al* (2010), the nature and scope of the internal audit's assurance is examined.

The top five highest ranked activities currently performed by internal auditors according to survey respondents

Operational audit	88.9%
Audit of compliance with regulatory code	75.1%
Auditing of financial risk	71.6%
Investigation of fraud and irregularities	71.2%
Evaluating effectiveness of control system	68.8%

Alkafajiet *al*, (2010)

The emerging top five activities to be performed by internal auditors in the next five years according to survey respondents include;

Corporate governance	23%
Audit of enterprise risk management processes	2.4%
Review addressing linkage of strategy and company performance	19.9%
Ethics audit	19.9%
Migration to IFRS	18.8%

Alkafajiet *al*, (2010)

The extrapolations from the work of Alkafaji et al is an emmerging believe that the scope and nature of internal audit activities be long-drawn-out to a more holistic components in addressing issues in internal audit.

2.6 Effectiveness of Internal Audit

In this situation, internal audit effectiveness means the ability of the internal auditor to achieve the established objective within the organisation. This goes along that the objectives of an internal audit for every organization are depending on the goals set out by the management of the organization (Pungas, 2003) as such, the objective of internal audit in government agencies should also go along with the set up goals by the management of the particular government agencies, even though the degree of internal audit effectiveness tends to vary within organizational level as well as country (Al-Twajjryet *al.*, 2003). This mean the internal audit effectiveness can also vary within the local level. With regard to that, the internal audit should be able to achieve the established objective in order to improve the performance of the organization. Consequently, to determine whether the internal auditing function is operating effectively or not, some things has to be considered which include; identification of the basic objective of internal auditing; define the goals to be accomplished by the internal auditing and establish measures that will assist toward the achievement of those goals (Aguolu, 2009; Dittenhofer, 2001) while Cassandra et at (2008) argued that in order to achieve internal audit objective, three basic conditions must be satisfied i.e. independence; organizational status; and objectivity, also (Feizizadeh, 2012) consideration was that, for an internal audit function to achieve high levels of effectiveness these four items must be considered; go along with stakeholder needs; achieve best of abilities; complies with relevant professional standards and;

performance measures. Thus, Beckmerhagen *et al* (2004) also argued that the audit effectiveness should not be measured based on achievement of the audit objectives or on the number of findings of the internal auditor alone, but also more important is to determine the quality and suitability of the audit plan, execution and follow-up. Similarly, Shareholders should have the power to remove any internal auditor that is ineffective (Dhamankar and Khandewale, 2003). This should also be in line with the management of the various institutions by removing all internal auditors that are not effective despite the provision of all necessary that might have improve their effectiveness.

Generally, researchers have also indicated some of the reasons behind the ineffectiveness of internal audit, they include; ineffective management controls, non-clear definition of objectives by some organizations and inadequate support from top management (Ahmad *et al*, 2009; Dittenhofer 2001; Unegbu and Kida, 2011). Therefore, in line with this, the implications of an ineffective internal audit in government agencies can lead to; the possibility of the emergence of fraud; low or non-compliance with internal policies and procedures; ineffective financial decision for successful operation (Unegbu and Kida, 2011). Hence, the effective internal audits carry out an independent evaluation of the financial and operating information and systems and procedures with a view to provide good recommendations for improvements (Mihret and Yismaw, 2007; New Delhi, 2006). That is why proper internal control is also an essential factor that leads to the achievement of internal audit effectiveness. Similarly, internal audit effectiveness can also be enhanced by ensuring consistency in the documentation of audit work, quality of reporting and proper implementation of their recommendation (Mihret and Yismaw, 2007).

Therefore, having such effective internal audit within organization, will automatically help to achieve performance and profitability and prevent loss of revenues particularly in government agencies (Vijayakumar and Nagaraja, 2012) even though Pilcher Gilchrist and Singh (2011) observed that efficiency and effectiveness of audit in government agencies context is more complex. But then consideration must be given to the effectiveness of internal auditors so as to improve their standard.

Several studies have been conducted on the internal audit effectiveness. In (Ahmad, Othman, and Jusoff, 2009; Arena and Azzone 2009; Arena and Azzone 2010; Boğa and Palfi 2009; Cohen and Sayag, 2010; Dittenhoper, 2001; Feizizadeh, 2012; IIA, 2010; Mihret and Yismaw, 2007; Mihret, James and Joseph, 2010; Theofanis, *et al* 2011; Ussahawanitchakit and Intakhan, 2011). For example the study carried out by Ahmad *et al* (2009) on the effectiveness of internal audit in Malaysian companies, found the lack of audit staff is ranked as the major problem faced by internal auditors in conducting an effective internal auditing. In Theofanis, *et al* (2011) the relationship between internal control system and internal audit effectiveness was examined and the result of the study reveal positive relationship between the two relationships. Also Feizizadeh (2012) carried out study on strengthening internal audit effectiveness and found that most of the companies measure and quantify the performance and effectiveness of their business activities.

2.7 Effect of Internal control system on Internal Audit

Internal control system plays a crucial role in internal auditing practices (Chambers *et al.* 1987) because the internal auditors may be seen as having some knowledge and expertise in management control (Chambers *et al.* 1987). Internal auditing practices

usually assess internal control systems effectiveness as well as an appraisal of the actions by management to correct situations which are not in line with desired outcomes. The meaning of internal control systems shows that it is almost the same as management control (Chambers *et al.* 1987), which has a vital component of control such as planning, organizing, staffing of employees and direction (Chambers *et al.* 1987). The internal audit is usually expected by senior management and the audit committee to carry out appropriate audit work and gather available information during the year in order to form a judgment about the adequacy and effectiveness of the control processes and also report to management and the audit committee concerning their opinions regarding the organization's system of internal controls with respect to whether they are appropriate or not. This is crucial because internal auditors play an intermediary role as well as help in carrying out the oversight function of audit committees. Management of an organization may be required to adopt other processes of monitoring the activities of the organization in order to be certain that the internal control systems of the organization are operating effectively towards the safeguarding of the assets of the organization. This will result in the need for the board of directors of the company to evaluate the processes of the organization in order to be sure that the internal control systems in the organization are operating effectively and according to plans as well as helping the organization in reducing risks associated with its activities and operations.

2.8 The Roles of Internal Auditors in Internal Control System

Internal control was developed in the accounting and auditing disciplines, which was traditionally interpreted as 'accounting controls' as it was confined within the limit of auditors test, in to ascertain the assurance of reliable financial report (Pfister, 2009).

Internal auditors are expected to usually lead all sections of the organizations on the issues of the internal control systems of the organization while paying particular attention to the main objectives of the organization as a whole. According to the Institute of Internal Auditors-IIA (2000), internal auditing should aim at helping all the individuals within the organization to be able to carry out their responsibilities and tasks effectively. They can do this by providing all members of the organization with detail analyses of projects, making project appraisals as well as giving relevant recommendations concerning the activities of the organization.

The internal auditors are usually involved in all aspects of the business operations where their services are needed. They usually focus on understanding all the operations of the organization under consideration instead of just concentrating on only accounting and financial records preparations and audits. According to Sawyer and Vinten (1996), managers of business organizations usually get a lot of assistance and help from internal auditors including provision of bases for making judgments and taking actions by management, reporting weaknesses in internal controls and performance and making recommendations to management for improvements to be made, counseling managers and the board of directors with respect to measures that can be put in place by management to solve some of the problems hindering the business operations as well as the provision of accurate, reliable and timely information to management to take decisions that are critical for the survival of the organization.

In order for the internal auditors of an organization to help ensure that the organization's internal controls are effective, certain activities have to be undertaken

by the internal audit unit. Internal auditors are expected to regularly carry out an assessment of the accounting controls, financial controls and controls relating to the operations of the organization in order to test the accuracy and appropriateness of the entity's internal controls. In addition, the internal auditors are supposed to constantly determine the degree to which the business organization is complying with policies, laws, procedures, plans and regulations it has put in place which could have a substantial impact on the business operations of the organization. Internal auditors are also expected to constantly review the methods put in place by the entity in order to protect and safeguard its assets as well as taking measures to find out if those assets really exist or not in addition to an assessment of whether the resources of the organization are being use economically and efficiently or not. Furthermore, internal auditors carry out an appraisal of the operations of the organization by comparing results achieved to the objectives set in order to find out if the results meet set objectives, if not the corrective measures that can be put in place by the business entity in order to help address the problem.

One of the main activities that is usually carry out by the internal audit unit is to regularly review and appraise the the entity's internal control mechanisms in order to ensure that they are appropriate and operating effectively. The review of the adequacy of internal auditing within an organization will enable the internal auditors to determine whether the internal controls that have been developed and implemented by the organization can help ensure that the goals and objectives of the organization can be achieved in an efficient and cost effective manner. If internal auditors and the management of the organization undertake planning and organization in a manner that provides reasonable guarantee that the entity's objectives will be achieved using little

resources and in an efficient manner, then it can be said that there is an adequate internal control system operating within the organization. Reasonable assurance can be said to be achieved if the organization takes measures and actions that are cost effective in order to control deviations to an acceptable level.

In determining the effectiveness of an entity's internal control mechanisms, internal auditors are expected to play the role of ascertaining if the system is operating according to plans. If the system is directed by the managers of the organization in a way that provides reasonable guarantee that the objectives as well as the goals of the entity can be achieved, it means that the organization has effective internal control systems in place. Internal auditors usually undertake an appraisal of the quality of operations of the system of internal controls in order to find out whether there has been an accomplishment of the goals and objectives of the organization or not. The main purposes of an entity's internal control mechanisms are to provide reasonable assurance to the management of the organization that there is accuracy and reliability in the entity's financial reporting thereby producing reliable financial information; there is compliance with plans, policies, regulations, contracts and procedures established by the organization; the assets of the organization are protected against theft and loss; there is economic and efficient utilization of the entity's resources as well as ensuring that goals and objectives that have been developed for the entity's operations or programs can be accomplished. This appraisal and assessment process is usually carried out by the internal audit unit. It is also the duty of the internal audit unit to carry an appraisal and constant review of the financial and operation information of the business entity and the methods and mechanisms the organization usually used in identifying, measuring, classifying and reporting such information in

order to ensure that they are accurate and reliable. Information systems are expected to provide data to the management of the organization to be used for decision making, control of the organization's activities as well as ensuring compliance with external reporting requirements. Internal auditors are therefore supposed to assess the entity's information systems in order to ensure that the financial and operating records as well as reports produced by the organization's accounting information system contain timely, reliable, accurate, useful and up to date information and also ensuring that controls that are put in place to govern records keeping and financial reporting are appropriate, adequate and effective. According to the international auditing standards, another activity that is supposed to be carried out by the internal audit unit during its auditing process is to review the internal control mechanisms of the business organization in order to ensure that they are in compliance with the laws and regulations as well as policies of the business entity. It is the duty of the management of the business organization to develop implement the system of internal controls in order to ensure that the operations of the business organization complies with its policies and regulations but it is the duty of the internal auditors to ascertain whether those internal controls designed and implemented by the entity's management in order to control their operations are operating adequately and effectively or not as well as ascertaining whether the activities that are usually audited are in compliance with the appropriate requirements or not. The internal auditors are also expected to undertake an appraisal of objectives and goals developed by the entity's administrative management as well as making recommendations to management regarding those goals and objectives within the context of internal controls.

2.9 The Relationship between Internal Control System and Internal Audit.

In reference to many organizations, government agencies are also in a bid to improving transparencies in their services, notwithstanding operations and finances for stakeholders and the public. Internal control is not a distinct sector within an organization or entity, but found in every management structural function. The present of internal control is felt within any operational transactions, which serves as a benchmark for each employee to comply to. Every department is responsible for its internal control, (SUCIU, 2010). Organization of a well managerial setup, with a laid vision, mission and objective, always desire ways that best control their enterprise.

As Such measures of internal control are put in place in other to keep the company in line, to the achievement of its goals of profitability, (Affum, 2011). In order to achieve basic organizational objectives of; efficient and orderly manner of carrying out business, safe guarding assets, compliance with management policies and securing as much as possible compliance to set process and records, there is always the need to the provision of an effective internal audit system for effective internal control and its sustenance (Affum, 2011).

The diverse important purposes of internal control saw an increasing call for such controls system to be effectively implemented. Desire for system of internal controls create the need COSO report; hence the need for internal audit. Internal audit were typically set as an appraisal function by management in an avenue to review the internal control system of an organizational services (Affum, 2011).A research by Affum, (2011) on the “ Evaluation of internal controls in Papsa Ghana limited” revealed that the success of effective control system put in place for the said

company, was due to the immense contribution of the internal auditor. Notwithstanding the challenges in the roll of the internal auditor which include; limited logistics, inadequate budgetary allocation, limited number of staffs, and a cultural perception of internal auditors tented as witch-hunters.

The creating of a system of internal audit within an organizational setup serves as a catalog in facilitating of a sustainable internal control system. In perspective the study concluded that no organizations either governmental, private or nonprofit making organization can operate in an effective and efficient manner without internal controls system (Affum, 2011).

But to its establishment and sustenance, the duty of the internal auditor is paramount to guarantee effective control system. Therefore as significant for such system to be strengthened, all challenges and setbacks which fight against the role of the internal auditor must be given prompt attention in addressing them?

2.10 Impact of Internal Controls on the Role of Internal Auditors of Government agencies.

Internal audit in reference to government agencies is aim at ensuring a value added audit service with the primary focus of achieving a set objective, through the application of, an organized and disciplined approach that can appraise and enhance the level of effectiveness in respect to management of risk. Internal control and internal audit help ensure that there is proper governance in government institutions (IIA, 2006). Again, Lin and Rao (2009), concludes that internal audit may carryout analysis of strength and weaknesses of government agencies internal control, putting

into consideration organizational culture, governance, and its related threats and opportunities. Such audit of internal has a contributing factor in determining the level of achievement of goals by the organization. As internal audit analysis and assess whether risk is identified to put internal control measures in place.

Furthermore, in the government agencies, internal audit works in line with those who are in charge of governance of the organization, which include the board, committee of audit, management of the senior rank, but sometimes where the need might demand an external oversight audit. All are in line to regulate and ensure a required system of internal control, to be formulated and implemented, (INTOSAI, 2006).

In addition, in all instances internal auditing provide internal control measures that seek to strengthen controls accomplish goals, objectives; improve efficiency and effectiveness of operations in government agencies which are in compliance with the powers in government agencies (INTOSAI, 2006). Lastly, is very important to make known that as internal audit plays a key assisting role on internal controls, which act to perform management and operational responsibilities in government agencies (Zhang, 2007).

CHAPTER THREE

METHODOLOGY AND ORGANIZATIONAL PROFILE

3.0 Introduction

This chapter explains the research methodology employed by the researcher to do the research work. The chapter also outlines how the researcher gathered information from a wide range of approaches and analytical techniques which were used as the basis for interpretations, explanations, inferences and predictions. It also highlights the study population of the research, the size of the sample used for the study, and the techniques used in sampling respondents for the study, the data sources, the data collection methods as well as the way the data has been analyzed.

3.1 Research Design.

This study examines five components of internal control and their impact on the internal audit of government agencies. This will be done from the perspective of the auditors, directors and managers of these government agencies. The strategy for the research would be survey within a case study. Mixed method of data analysis has been employed. Thus, quantitative and qualitative data analysis methods have been used.

3.2 Data Collection Procedure

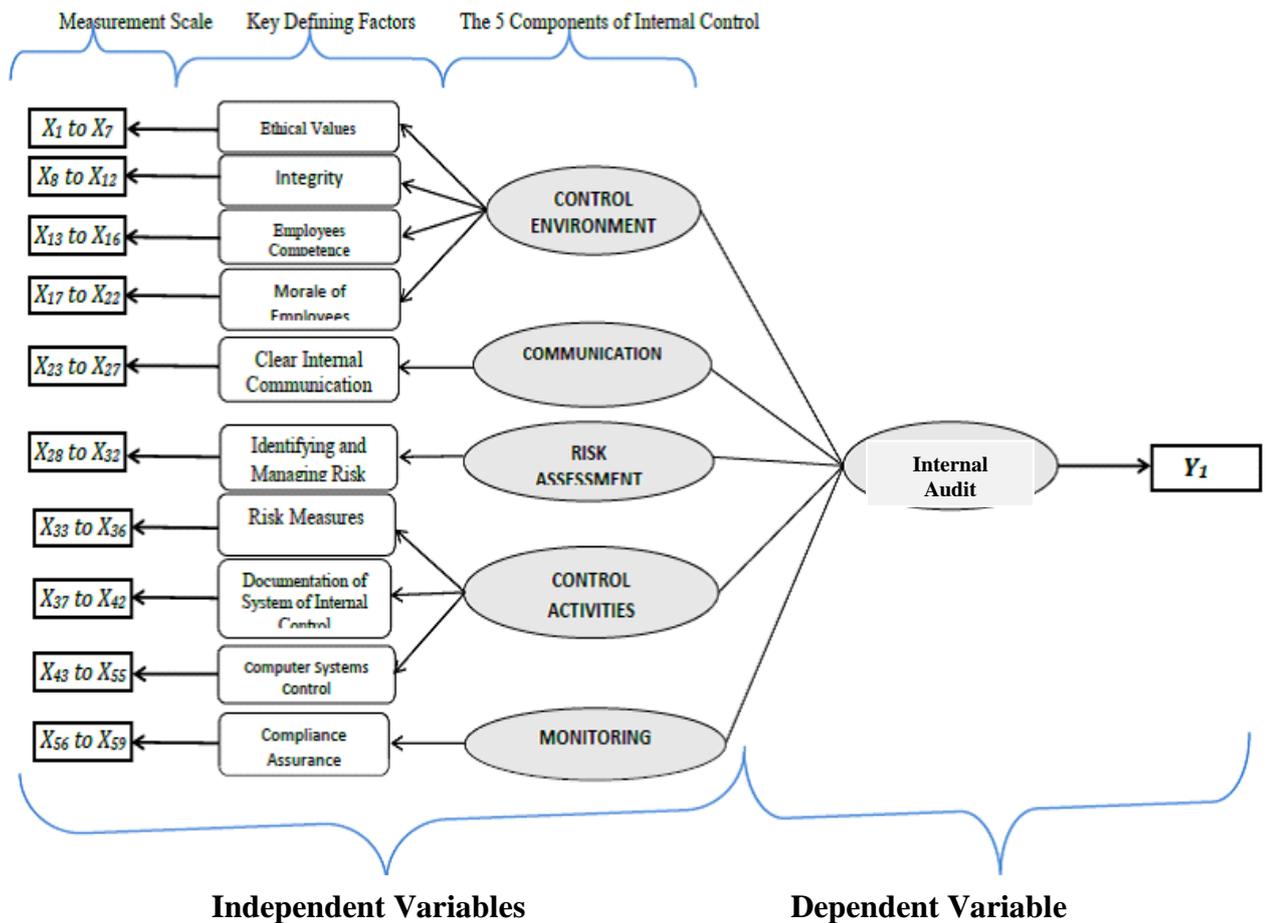
Survey questionnaire has been used to collect the quantitative data. The questionnaires have been administered to eighty staff of four government agencies such as CAGD, Ghana Audit Service, Ghana Revenue Authority and Sunyani Municipal Assembly in order to obtain their perceptions of the effect of the five

internal control system components (thus, integrated system of internal controls) on internal audit of government agencies.

3.3 Measurement of Variables:

The diagram below illustrates the model that has been tested in this study. The model is represented by five independent variables such as control environment, information and communication, control activities, risk assessment, and monitoring and one dependent variable (internal audit).

Figure 3.1 Proposed Theoretical Model with Measurement Items.



Source: (adapted from COSO Framework, 2012)

The Details of the Measurement Constructs of the Model in the diagram above are shown in table 3.1 in the appendix below.

The control environment component is represented by variables such as ethical values, integrity, employee's competence and morale of employees. The ethical values is also represented by variables measuring from X1 to X7 which comprises commitment to honesty and fairness, recognition of and adherence to laws and policies, respect for the organization, leadership by example, commitment to excellence, respect for authority, respect for employees' rights; and conformance to professional standards respectively.

The integrity is represented by variables measuring from X8 to X12 which comprise establishing and publishing a code of conduct, complying with the organization's ethical values and code of conduct, rewarding employee commitment to the organization's ethical values, establishing methods for reporting ethical violations and consistently enforcing disciplinary practices for all ethical violations respectively.

Employee's competence is represented by variables measuring ranging from X13 to X16 which also encompass, establishing levels of knowledge and skill required for every position, verifying the qualifications of job candidates, hiring and promoting only those with the required knowledge and skills and establishing training programs that help employees increase their knowledge and skills respectively.

The morale of employees also comprises variables ranging from X17 to X22 which are represented by opinions of employees and contributions are welcomed, valued and recognized, the organization is willing to help improve the level of competency of

employee, there is opportunity for continuous improvement, they have a stake in the mission, goals and objectives of the organization, the organization's appraisal and reward systems are fair and the lines of communication are open respectively.

The information and communication variable is represented by the variable clear internal communication. Clear internal communication is however represented by five variables ranging from X23 to X27 which include inform employees of their duties and responsibilities; reporting sensitive matters; enable employees to provide suggestions for improvement; provide the information necessary for all employees to carry out their responsibilities effectively and convey top management's message that internal control responsibilities are important and should be taken seriously respectively.

The risk assessment component is also represented by one variable in the model, thus identifying and managing risk. This variable is however is represented by five separate variables ranging from X28 to X32 which include accepting risk and avoid establishing control activities because management do not consider the risk to be significant, preventing or reducing risk by Establishing control activities because management considers the risk to be significant, avoiding risk and stop carrying out the function because management considers the risk to be extremely significant, establishing the reason why the risk exists to help identify all the alternative control activities that could prevent or reduce the risk and prioritizing list of risks to help decide how to distribute resources among the various control activities used to reduce the risks respectively.

The control activities component is represented by three variables namely risk measures, documentation of system of internal controls and computer systems control. The risk measures variable is measured by four separate variables ranging from X33 to X36 and include, putting in place directive control activities that take the form of laws, regulations, guidelines, policies and written procedures to guide the organization toward its desired outcome, development of Preventive control activities that are designed to deter the occurrence of an undesirable event such as a system for predicting potential problems before they occur and implementing ways to avoid them, designing detective control activities to identify undesirable events that do occur, and alert management about what has happened to enable them to take corrective action promptly. Example is identifying a staff having access to all information without the consent of senior staff, and ensuring Corrective control activities that keep focus on undesirable conditions until they are corrected which may also help in setting up procedures to prevent recurrence of the undesirable condition such as a system that keep a focus on a staff identified to have access to all information without the consent of senior staff until his access is regulated or denied respectively.

The documentation of systems of internal controls variable is represented by six individual variables measuring from X37 to X42 and include, approval is based on the level of risk to which the organization would be exposed without such approval, authorization is always approved by management before they are used by employees, verification of all that is needed to be verified based on the risk profile of the organization. Example is verifying that there is a need for a purchase, and that a fair price has been obtained, proper Supervision, separation of Duties among employees

for payment initiation, payment approval functions etc. and safeguarding assets by restricting access to resources and information to help reduce the risk of unauthorized use or loss respectively.

The computer systems control is represented by thirteen variables ranging from X43 to X55 and includes, use of fraud blocking services to protect company accounts from unauthorized debits, requiring monthly password resets with strong password formats, disabling employee user ID when on vacation or leave, removing unnecessary entitlements from employees, rotating duties among employees and ensure full week vacations are taken to assist with prevention of collusion, avoiding setting up super users but rather setting up controls requiring two or more users to initiate payment, ensuring all PCs are current with virus protection and are protected by firewalls, being cautious of file sharing and disabling this capability if possible, IP restriction for key files or applications, including online cash management services, educating employees never to share passwords or to divulge account or log-in credential information to anyone, including fraudulent online e-mail solicitations from an imposter posing as organization's financial institutions, encrypting data on employees' PCs, adequate backup and disaster recovery procedures for preventing or reducing the risks related to system failure, power loss or other potential threats to the systems or data, by arranging for storage of backup copies of files at a secure off-site location; and putting in place Output controls to ensure that system generated information is accurate and that only authorized users receive this information respectively.

The monitoring component of internal control is represented by one variable known as compliance assurance in the model which is measured by four individual variables ranging from X56 to X59 and include, effective monitoring is performed by staff persons; supervisors, mid-level managers and executive managers, control activities are established such that it is difficult for controls to be overridden and collusion for fraudulent purposes to be possible, controls are in line with organization's missions, and continuous evaluation through self-assessment (by internal auditors), independent assessment (by external auditors) and assessment of the System of Internal Control respectively.

3.4 Data Analysis method.

The stepwise multiple regression method of data analysis has been employed in analyzing the data. The descriptive statistics of the variables used in the model have been discussed first. The details of the correlation between the variables employed in the study were inherent due to the use of stepwise regression. The model summary which shows the adjusted R-square value (which shows the percentage of changes in the dependent variable that can be predicted by the independent variables in the study) has also been provided at the end of every table. The ANOVA results which shows the overall significance of the model thus, if $p < 0.05$, the model is significant, has also been provided under each output generated. Also, the study will measure how each individual variable has contributed to the model using the standardized beta coefficient. The Predictive Analytic Software (PASW) has been used for the analysis. The internal audit performance has been measured using Four-item measurement scales. The four-item measurement scales will serve as a proxy for the dependent variable which is internal audit. Using the capabilities of predictive analytic software

(PASW) the coded responses from these proxies will be transformed from categorical data to scale data. They will then be summed up and the mean of the summation will be calculated. It is this mean that will represent the dependent variable (internal audit).

3.5 Population, Sample Size and Sampling Procedure

A sample of eighty staff of the selected government agencies have been selected from some selected government agencies in the Brong Ahafo region. Twenty questionnaires have been administered to twenty respondents in every selected institution. The sample comprises the selected government agencies financial controllers or accountants and their deputies, managers of cash who are also referred to as treasurers or chief cashiers, the selected government agencies internal auditors as well as their heads of departments. The purposive/judgmental sampling method has been used in selecting the respondents. Purposive sampling has been employed in the study because it helped ensure the selection of respondents who will be able to provide the kind of information needed for the study. The study will ensure that information-rich respondents have been selected which will be statistically representative as in probability (Patton, 2002).

3.6 ORGANIZATIONAL PROFILE

3.6.1 CONTROLLER AND ACCOUNTANT-GENERAL DEPARTMENT.

The Civil Service Act, 1960 (CA.5) established the Controller and Accountant General's Department and the legal framework that oversees the activities and operations of the Controller and Accountant General's Department as well as the

functions of the Controller and Accountant-General of Ghana is the constitution and the Administration Act, 2003, Act 654

The Financial Administrative Act, 2003 (Act 654) has mandated the Controller and Accountant - General's Department to: Receive all Public and Trust monies payable into the Consolidated Fund, Provide secure custody of Public and Trust monies (with the support of the Ministry of Finance and Bank of Ghana), Making of disbursements on the Government behalf includes the payment of monthly salaries to government employees inactive service; pension gratuity and monthly pension payment to those on retirement; and releases of funds to prosecute government projects and development throughout the country; take control of payment of all Government Workers' remunerations; ensuring processing and payment of all Pension gratuity for the Civil Service; establishing on behalf of government, such accounts with the Bank of Ghana and its agents for depositing of Public and Trust monies; be solely responsible for the opening of bank accounts for any government department; keeping, preparing, rendering and publishing financial statements on the Consolidated Fund of Ghana on monthly and annual basis (not later than three months after the end of the financial year). The Auditor General is furnished with the necessary financial statements for his scrutiny and onward transmission to parliament and eventual gazetting; approving accounting instructions for Government Departments as well as promoting the development of efficient accounting systems in all Government Departments.

3.6.2 GHANA AUDIT SERVICE

The colonial government in 1910 established the Audit Service and gave it the name the Audit Department which was headed by a Director. However, the name was

changed to Auditor-General's Department in the 1950s. Furthermore, the constitution of the 2nd Republic of Ghana changed the department into the Audit Service which is headed by an Auditor-General on 22nd August, 1969 in order to enhance its degree of independence. The provisions made by the 1969 Constitution have been restated by the Audit Service Act 2000, (Act 584) and the 1992 Constitution (Article 187, 188, 189).

As per Article 187(2) of the constitution, the Audit Service is in charge of auditing the public accounts of Ghana, which include Central Government; Ministries, Departments and Agencies (MDAs); The Judiciary or Courts; and Parliament; Metropolitan, Municipal, and District Assemblies; The Houses of Chiefs and Traditional Councils; Public Educational Institutions; Governing boards: Bodies established with public funds including corporations, companies and other enterprises; Public offices established by the constitution and other public offices as defined by Article 295 of the 1992 constitution; an entity established with public funds or an act of Parliament e.g. GET fund, Road fund, NHIS and Half yearly foreign exchange receipts and payments statement of the Bank of Ghana for the periods ending June 30 and Dec 31.

The purpose for the establishment of the Audit Service is to promote good governance in the areas of transparency, accountability and probity in the public financial management system of Ghana by auditing in accordance with recognized international auditing standards, the way public resources are being managed and reporting to Parliament.

3.6.3 GHANA REVENUE AUTHORITY.

The Act of Parliament, Act 2009 (Act 791) established the Ghana Revenue Authority (GRA) by merging the three revenue agencies such as Customs, Excise and Preventive Service (CEPS), the Value Added Tax Service (VATS), the Internal Revenue Service (IRS), and the Revenue Agencies Governing Board (RAGB) Secretariat into a single Authority for the administration of taxes and customs duties in the country.

The purpose for establishing the GRA is to integrate Internal Revenue Service (IRS) and Value Added Tax Service (VATS) into domestic tax operations on functional lines; Integrate the management of Domestic Tax and Customs; Modernise Domestic Tax and Customs operations through the review of processes and procedures with ICT as the backbone

The integration of the revenue agencies has helped to reduced administrative and tax compliance cost; ensure better service delivery; improved departmental information flow; ensure holistic approach to domestic tax and customs administration; and enhanced revenue mobilization in Ghana.

The GRA has three main divisions namely Customs Division (CD); Domestic Tax Revenue Division (DTRD) and Support Services Division (SSD). These three structures merge the management support services of Finance, Administration and Research thus leaving the Customs Division and the Domestic Tax Revenue Division free to focus entirely on revenue collection.

3.6.4 SUNYANI MUNICIPAL ASSEMBLY.

The Sunyani Municipal Assembly is situated at the center of the Brong Ahafo Region, Sunyani which represents the regional Capital of the Brong Ahafo region of Ghana. It lies between Latitudes 7° 55'N and 7° 35'N and Longitudes 20° W and 20° 30'W. It shares boundaries with the Wenchi Municipal to the north, Asutifi District to the south, Berekum Municipal and Dormaa East Districts to the west and Tano South District to the east. The municipal has about twenty-seven settlements under the jurisdiction of the Traditional Council of Sunyani and seventeen towns. The Traditional Council is the traditional authority of the people which is in charge of organizing its people for development. One of the few water falls in the country is located within the Brong Ahafo region thereby attracting hundreds of local and international tourists annually. The region has a lot of historical heritage which attracts a lot of visitors.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

4.1 Introduction

The multiple regression analysis results have been covered in this chapter. The chapter informs the readers of this research report about the amount of the variance that has been accounted for by the model of the study, the significance of the model and the significance of the individual predictor variables. Against this background and in line with the objectives of the current study, the chapter has statistically tested the relationship of internal control system as a whole on the internal audit of private government agencies. Further test has been run to test the impact of the various internal control components on the internal audit of the institutions.

4.2 Descriptive Statistics

This section reports the descriptive statistics of the sample and is reported in the table below.

Table 4.1: Descriptive Statistics of the sample

	Frequency	Percent
Name of Institution		
Audit service	20	25.0
Controller and Accountant General Department	20	25.0
Municipal Assembly	20	25.0
Ghana Revenue Authority	20	25.0
Age		
26-35	34	42.5
36-45	29	36.3
46-55	17	21.3
Gender		
Male	47	58.8
Female	33	41.3
Higher level of Education		
HND	6	7.5
First degree	52	65.0
Second degree	17	21.3
GCE A level	5	6.3
Grade or position of respondent		
Director	1	1.3
Accounts Officer	4	5.0
Maintenance engineer	1	1.3
Debt Enforcement Officer	1	1.3
Tax Assessment officer/Administrator	2	2.5
Assistant director	5	6.3
Auditor	20	25.0
Internal Auditor	17	21.3
Accountant	17	21.3
Assistant Internal Auditor	1	1.3
Cashier	2	2.5
Head of department	2	2.5
Revenue collector	7	8.8
Number of years of work experience		
Below 3 years	9	11.3
3-5 years	16	20.0
6-10 years	30	37.5
Above 10 years	25	31.3

Source: Field Survey, 2015

4.2.1 Profile of Institutions

The results from the table above show that 25% each of the total sample size of respondents who were engaged in the survey are equally distributed among the selected institutions namely; the Audit Service, Controller and Accountant-General department, Municipal Assembly and Ghana Revenue Authority.

4.2.2 Age of respondents

In terms of age characteristics of the respondents, the results show that 42.5% of the respondents are between the ages of 26 to 35 years, while 36.3% are between the ages of 36 to 45 years. Also, the results reveal that 21.3% of the respondents are between the ages of 46 to 55 years. It can be deduced from the above analysis that majority of the respondents are below the age of 45 years.

4.2.3 Demographic characteristics

In terms of demographic characteristics, most of the participants are males representing 58.8% of the total number of respondents, with the remaining 41.3% being females. This implies that the males dominate their female counterparts in the survey.

4.2.4 Educational characteristics

The defining characteristics of the sample from table 4.2.1 indicate that in terms of educational background, 7.5% of respondents are HND degree holders. Also, majority of the respondents representing 65% of the sample respondents hold first degree while 21.3% have second degree. In addition, 6.3% of the respondents have completed GCE

‘A’ level. Thus, since majority of the respondents have tertiary education, they are expected to have a fair understanding of internal control mechanisms and internal audit in their respective institutions.

4.2.5 Work status

The current work statuses of the respondents are also examined in the survey. The results show that 1.3%, 5% and 1.3% of the respondents are Directors, Accounts Officers and Maintenance Engineers respectively. Also, 1.3%, 2.5%, 6.3% and 25% of the respondents are Debt enforcement officers, tax assessment officers/administrators, Assistant directors and Auditors respectively. Furthermore, 21.3%, 1.3% and 21.3% of the respondents are internal auditors, Assistant internal auditors and Accountants respectively. In addition, 2.5%, 8.8% and 2.5% of the respondents are Cashiers, revenue collectors and heads of departments respectively. It can be seen from the above analysis that majority of the respondents are in the position of auditors implying that they have good knowledge of internal auditing processes as well as internal control mechanisms and will therefore give accurate responses regarding the effectiveness of the internal controls at their respective institutions.

4.2.6 Work Experience

Most of the respondents have 6-10 years of working experience representing 37.5% as evident from the table above. Next to this subgroup are participants with above 10 years of working experience. The numbers of participants with 3-5 years of working experience constitute 20% of the entire sample size. Also, 11.3% of the respondents have working experience of less than 3 years. The respondents are expected to exhibit

adequate internal control and auditing knowledge since most of them have more than three years of working experience in their respective working positions.

4.3 The Impact of Control Environment on Internal Audit

Here, the study tries to examine specifically the effect of Control environment as a component of internal control on internal audit of public institutions in Ghana. Table 4.2 report the regression results of the impact of control environment on internal audit.

Table 4.2: Results of impact of Control Environment on Internal Audit

	Coefficient	Standard. Error	T-statistics	P-value
Intercept	5.324	0.294	18.131	0.000
Establishing methods for reporting ethical violations	0.225	0.091	2.475	0.016
Compliance with the organization's ethical values and code of conduct	0.412	0.118	3.478	0.001
Control environment has an impact on internal audit	0.297	0.097	3.062	0.003

Note: F –statistics = 14.72, $p < 0.01$ R-squared = 0.3675 Adjusted R-squared = 0.3423

The results from the table above report a positive and significant relationship between internal audit and establishing methods for reporting ethical violations in public institutions. This confirms findings of prior studies such as (Aldridge and Colbert, 1994 and Sudsomboon and Ussahawanitchakit, 2009) suggesting that increasing ethical reporting methods enhances the viability of internal auditing processes in public institutions.

Similarly, the results record positive and significant relationship between internal audit and compliance with organization's ethical values and codes of conduct. Furthermore, the results depict a positive and significant relationship between internal audit and control environment as a whole. Thus, an improvement in control environment variables will exert positive influence on internal audit processes. The significant F-statistics with an r-squared of 0.3675 suggest that the independent variable employed in the study can predict approximately 36.75% of the changes in internal audit processes of public institutions in Ghana.

The implication for management of public agencies is that by ensuring compliance with organizations' ethical values and codes of conduct as well as ensuring that there are appropriate methods for reporting the entity's performance will help make the operations of the internal audit unit more effective and efficient and this will help safeguard public resources as well as reduce risk associated with the operations of those agencies.

4.4 The Impact of Risk Assessment on Internal Audit.

This section of the study examines the effect of risk assessment as a component of internal control on internal audit of public institutions in Ghana. Table 4.3 report the regression results of the impact of risk assessment on internal audit.

Table 4.3: Regression of Risk Assessment against Internal Audit

	Coefficient	Standard Error	T-statistics	P-value
Intercept	4.760	0.267	17.802	0.000
Risk assessment has an impact on the internal audit	0.386	0.118	3.269	0.002
Management establish the reason why the risk exist	-0.236	0.108	-2.196	0.031

Note: F – statistics =13.52, $p < 0.01$ R-squared = 0.2599 Adjusted R-squared = 0.2407

The results in the table above show a negative and significant relationship between internal audit and management justifications of why risks exist in the public institutions. Thus, as noted in prior studies such as Theofanis, et al. (2011), efforts of management to shadow risky activities using their offices may reduce the efficacy of internal auditing processes. This finding is however, confirmed by the significant positive relationship between risk assessment and internal audit in public sector institutions in Ghana. The significant F-statistics with an estimated r-squared value of 0.2599 suggest that the risk assessment variables can approximately explain 25.99% of the changes in internal audit processes in public institutions in Ghana.

The implication for management of public agencies is that attention must be directed towards all those activities that are regarded as risky instead of management always trying to justify the occurrence of such risks. Management should not always try to cover risky activities but rather should always disclose all relevant information needed by the internal auditors in order to enable them carry out their role of identifying and protecting risks within the public agencies.

4.5 The Impact of Control Activities on Internal Audit

This section of the study examines the effect of control activity as a component of internal control on internal audit of public institutions in Ghana.

Table 4.4: Regression of Control Activity variables against Internal Audit

	Coefficient	Standard Error	T-statistics	P-value
(Constant)	4.677	0.243	19.249	.000
Management educate employees never to share passwords	0.303	0.087	3.475	.001
Management safeguard assets by restricting access to resources and information	0.278	0.090	3.087	.003
Disabling employee user ID and password when on vacation or leave	0.217	0.073	2.973	.004
Control activities have influence on internal audit	0.187	0.093	2.014	.048

Note: F –statistics = 14.127, p<0.01 R-squared = 0.4296 Adjusted R-squared = 0.3992

The results in the table above show a positive and significant relationship between internal audit and management educate employees never to share passwords. This means that when management restrain employees from sharing passwords, it will enhance the activities of internal auditors in the sense that individual employees can be held individually liable for any losses that might occur within their offices since they are the only people having access to their office data.

The results also reveal a positive and significant relationship between internal audit and management safeguard assets by restricting access to resources and information. This implies that if management restrict access to certain information by unauthorised people, it will positively affect the operational efficiency of the internal auditors in public institutions in Ghana in the sense that it will help the internal auditors in discharging their duty of safeguarding the assets of the public agencies as well as protecting them against risk.

Furthermore, the results show significant positive relationship between internal audit and disabling employee user ID and password when on vacation or leave. This confirms evidence from prior studies such as Aikins, (2011) and Rezaec, et al. (2001) suggesting that disabling employee's passwords during their absence from work prevents them from manipulating critical information that may be relevant for an audit process. Overall, the results reveal a positive and significant relationship between internal audit and Control activities having influence on internal audit. The significant F-statistics with an estimated r-squared value of 0.4296 suggest that the control activities variables can approximately explain 42.96% of the changes in internal audit processes in public institutions in Ghana.

4.6 The Impact of Communication and Information Flow on Internal Audit

The study investigates the effect of communication and information as a component of internal controls on internal audit in public institutions in Ghana.

Table 4.5: Results of Information and Communication Variables against Internal Audit

	Coefficient	Standard Error	T-statistics	P-value
Intercept	4.327	0.308	14.032	0.000
Employees report sensitive matters	0.551	0.135	4.083	0.000
Employees are informed of their duties and responsibilities	0.451	0.155	2.907	0.005
There is a relationship between information and communication and the internal audit performance	0.231	0.091	2.541	0.013

Note: F -statistics = 11.39, $p < 0.01$ R-squared = 0.3101 Adjusted R-squared = 0.2829

As shown in the table above, there is significant positive relationship between internal audit and Employees report sensitive matters suggesting that when employees reveal all critical/sensitive information to internal auditors, it will have a positive impact on the activities of the internal auditors. This confirms the findings of prior studies such as Aldridre and Colbert, (1994) and Amudo and Inanga, (2009) suggesting that when employees provide all the information needed by internal auditors during an internal audit process, it will assist in the effectiveness of the internal auditing process.

Also, evidence from the table suggests a positive and significant relationship between internal audit and employees are informed of their duties and responsibilities. This

implies that when employees are aware of their responsibilities in the organization, it is more likely to improve internal auditing processes.

In summary, the results report a positive and significant relationship between internal audit and information and communication as a component of internal controls in public institutions. The significant F-statistics with an estimated r-squared value of 0.3101 suggest that the information and communication variables can approximately explain 31.01% of the changes in internal audit processes in public institutions in Ghana.

4.7 The Impact of Monitoring on Internal Audit

This section examines the effect of monitoring as a component of internal controls on internal audit in public institutions in Ghana.

Table 4.6: Result of monitoring variables Against Internal Audit

	Coefficient	Standard Error	T-statistics	P-value
(Constant)	4.795	0.273	17.579	.000
Monitoring has an impact on internal audit performance	0.350	0.081	4.298	.000
Control activities are established to prevent controls from being overridden and collusion	0.297	0.112	2.653	.010

Note: F -statistics = 15.293, $p < 0.01$ R-squared = 0.2843 Adjusted R-squared = 0.2657

The results from the table above reports a positive and significant relationship between internal audit and Control activities are put in place in order to ensure that controls are not being overridden and collusion for fraudulent purposes are not possible. This implies that when control activities are established to prevent fraud,

they will have a positive impact on the activities of internal auditors in Public institutions in Ghana.

Conclusively, monitoring as a component of internal control has a positive relationship with internal audit as shown in the table above. The significant F-statistics with an estimated r-squared value of 0.2843 suggest that monitoring variables can approximately explain 28.43% of the changes in internal audit processes in public institutions in Ghana. The implication for management is that they should ensure frequent and adequate monitoring of the activities of their institutions as well as effective monitoring of their internal controls in order to ensure that they are operating effectively and efficiently. This will enable them to safeguard public assets and resources as well as ensure the effective utilization of state resources.

CHAPTER FIVE

SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSION

5.1 INTRODUCTION

This chapter involves a presentation of the summary of the findings from the analysis than. Recommendations based on the findings have been provided to improve internal control and internal audit of the private government agencies. The study is concluded and a statement of the way forward is made.

5.2 SUMMARY OF MAIN FINDINGS OF THE STUDY

This section covers a summary of the main findings of the study regarding the impact of the five components of internal control mechanisms on internal audit of government agencies in Ghana.

5.2.1 IMPACT OF CONTROL ENVIRONMENT ON INTERNAL AUDIT

The results from the analysis revealed a positive and significant relationship between internal audit and establishing methods for reporting ethical violations in public institutions. This confirms findings of prior studies such as (Aldridge and Colbert, 1994 and Sudsomboon and Ussahawanitchakit, 2009) suggesting that increasing ethical reporting methods enhances the viability of internal auditing processes in public institutions.

Also, the results from the analysis showed significant positive relationship between internal audit and compliance with organization's ethical values and codes of conduct.

Furthermore, the results depict a significant positive relationship between internal audit and control environment as a whole. Thus, an improvement in control environment variables will exert positive influence on internal audit processes.

The implication for management of public agencies is that by ensuring compliance with organizations' ethical values and codes of conduct as well as ensuring that there are appropriate methods for reporting the entity's performance will help make the operations of the internal audit unit more effective and efficient and this will help safeguard public resources as well as reduce risk associated with the operations of those agencies.

5.2.2 IMPACT OF RISK ASSESSMENT ON INTERNAL AUDIT

The results in the analysis showed a negative and significant relationship between internal audit and management justifications of why risks exist in the public institutions. Thus, as noted in prior studies such as Theofanis, et al. (2011), efforts of management to shadow risky activities using their offices may reduce the efficacy of internal auditing processes. The analysis also revealed a significant positive relationship between risk assessment and internal audit in public sector institutions in Ghana.

The implication for management of public agencies is that attention must be directed towards all those activities that are regarded as risky instead of management always trying to justify the occurrence of such risks. Management should not always try to cover risky activities but rather should always disclose all relevant information

needed by the internal auditors in order to enable them carry out their role of identifying and protecting risks within the public agencies.

5.2.3 IMPACT OF CONTROL ACTIVITIES ON INTERNAL AUDIT

The findings from the study indicated a significant positive relationship between internal audit and management educate employees never to share passwords. This means that when management restrain employees from sharing passwords, it will enhance the activities of internal auditors in the sense that individual employees can be held individually liable for any losses that might occur within their offices since they are the only people having access to their office data.

The results also reveal a positive and significant relationship between internal audit and management safeguard assets by restricting access to resources and information. This implies that if management restrict access to certain information by unauthorised people, it will positively affect the operational efficiency of the internal auditors in public institutions in Ghana in the sense that it will help the internal auditors in discharging their duty of safeguarding the assets of the public agencies as well as protecting them against risk. Furthermore, the results show a positive and significant relationship between internal audit and disabling employee user ID and password when on vacation or leave. This confirms evidence from prior studies such as Aikins, (2011) and Rezaec, et al. (2001) suggesting that disabling employee's passwords during their absence from work prevents them from manipulating critical information that may be relevant for an audit process. In summary, the results reveal a positive

and significant relationship between internal audit and Control activities having influence on internal audit.

5.2.4 IMPACT OF COMMUNICATION AND INFORMATION FLOW ON INTERNAL AUDIT

The results from the analysis revealed a significant positive relationship between internal audit and employees report sensitive matters suggesting that when employees reveal all critical/sensitive information to internal auditors, it will have a positive impact on the activities of the internal auditors. This confirms the findings of prior studies such as Aldridre and Colbert, (1994) and Amudo and Inanga, (2009) suggesting that when employees provide all the information needed by internal auditors during an internal audit process, it will assist in the effectiveness of the internal auditing process.

Also, evidence from the analysis suggests a positive and significant relationship between internal audit and employees are informed of their duties and responsibilities. This implies that when employees are aware of their responsibilities in the organization, it is more likely to improve internal auditing processes. In summary, the results report a positive and significant relationship between internal audit and information and communication as a component of internal controls in public institutions.

5.2.5 IMPACT OF MONITORING ON INTERNAL AUDIT

The results from the analysis revealed a significant positive relationship between internal audit and Control activities being established in order to prevent controls from being overridden as well as collusion for fraudulent purposes being prevented. This implies that when control activities are established to prevent fraud, they will have a positive impact on the activities of internal auditors in Public institutions in Ghana. Conclusively, monitoring as a component of internal control has a positive relationship with internal audit.

The implication for management is that they should ensure frequent and adequate monitoring of the activities of their institutions as well as effective monitoring of their internal controls in order to ensure that they are operating effectively and efficiently. This will enable them to safeguard public assets and resources as well as ensure the effective utilization of state resources.

5.3 CONCLUSION

The study specifically investigates the impact of integrated internal control system on internal audit processes in public sector institutions. In this regard, six inherent hypotheses were proposed by the use of a model represented by five independent variables (control environment, communication, risk assessment, control activities and monitoring) and one dependent variable (internal audit). Using stepwise regression approach to Ordinary Least Squares analysis, the findings revealed that the internal control mechanisms have significant positive influence on the internal auditing activities in the public sector institutions.

On the other hand, some of the predictive variables were not significant when they were considered under the individual component of the internal control system but they were significant when they were considered as a whole. Thus, in order for public institutions to improve their internal audit processes, internal control processes must be revised to smoothing the activities of internal auditors in the public institutions.

5.4 RECOMMENDATIONS

It is recommended that since most of the internal control mechanisms were seen to positively influence internal auditing processes, public institution must strengthened their internal control mechanism to foster the activities of auditors

Secondly, some of the predictive variables were not significant when they were considered under the individual component of the internal control system. Thus, in order for public institution to improve their internal audit through the application of internal controls, all the components of internal control as a whole must be taken into consideration to guarantee significant success. In this regard information and communication must be taken seriously because when communications breakdown, employees such as accounting personnel may not be aware fully of the activities being undertaken and therefore may have difficulty recording and reporting transactions properly. This can lead to nonperformance of other components of internal control such that those components cannot function efficiently unless the other components are integrated.

Furthermore, there must be constant monitoring and review of the public institutions activities and transactions to assess the quality of performance over time and to

determine whether controls are effective. Management of the public institutions should focus their efforts on monitoring internal controls.

Finally, findings from the study cannot be generalized since it has not considered all the public sector institutions in Ghana due to time constraint. Therefore, future research should consider more public sector institutions as well as use different estimation techniques in order to generalize the findings.

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APPENDIX

QUESTIONNAIRE

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

COLLEGE OF ART AND SOCIAL SCIENCE

MASTER OF BUSINESS ADMINISTRATION

SCHOOL OF BUSINESS

The purpose of this is to gather data on the relationship between internal control system and internal audit. This is an academic exercise and the confidentiality of the data provided by respondents would be strictly observed.

Topic: An examination of the relationship between internal control system and internal audit. A case study of some selected government agencies in the BrongAhafo Region.

Please, indicate the extent to which you agree/disagree that these internal control components are being practiced within this bank by ticking the appropriate boxes below.

SECTION A

PROFILE OF THE RESPONDENTS

1. Name of Bank.

- Audit Service
- Controller and Accountant General Department
- Municipal Assembly
- Ghana Revenue Authority

2. Age Group.

- 26 – 35 years
- 36 - 45 years
- 46 - 55 years

3. Gender.

- Male
- Female

4. Higher Level of Education.

- First Degree
- Second Degree
- Doctorate Degree

5. Grade/Position.

- Director
- Auditor
- Internal Auditor
- Accountant
- General Manager
- Other.....

6. Number of years of experience.

- Below 3years
 - (3 - 5) years
 - (6-10)years
 - Above 10years
-
-

SECTION B

Control Environment and Internal Audit

1. To what extent do you agree or disagree that these control environment variables are being observed within this institution?

1 =Strongly Agree; 2= Agree; 3= Neutral; 4= Disagree; 5= Strongly Disagree

	<i>Ethical values</i>	1	2	3	4	5
7	Commitment to honesty and fairness					
9	Recognition of and adherence to laws and policies					
10	Respect for the authority					
11	Leadership by example					
12	Commitment to excellence					
13	Respect for employees' rights; and conformance to professional standards					
	<i>Integrity</i>	1	2	3	4	5
14	Establishing and publishing a code of conduct					
15	Complying with the organization's ethical values and code of conduct					
16	Rewarding employee commitment to the organization's ethical values					
17	Establishing methods for reporting ethical violations					
18	Consistently enforcing disciplinary practices for all ethical violations					
	<i>Competence of employees</i>	1	2	3	4	5
19	Establishing levels of knowledge and skill required for every position					
20	Verifying the qualifications of job candidates					
21	Hiring and promoting only those with the required knowledge and skills					
22	Establishing training programs that help employees increase their knowledge and skills					
	<i>Morale of employees</i>	1	2	3	4	5
23	Opinions of employees and contributions are welcomed, valued and recognized					
24	The organization is willing to help improve the level of competency of employee					
25	There is opportunity for continuous improvement					
26	They have a stake in the mission, goals and objectives of the organization					
27	The organization's appraisal and reward systems are fair					
28	The lines of communication are open.					
29	Control environment has an impact on internal audit					

SECTION C

Internal Audit Activities

2. To what extent do you agree or disagree that the following audit activities are performed?

1 =Strongly Agree; 2= Agree; 3= Neutral; 4= Disagree; 5= Strongly Disagree

30	<i>Performing operational audit</i>					
31	Audit of compliance with regulatory code					
32	Auditing of financial risk					
33	Investigation of fraud and irregularities					

SECTION D

Risk Assessment and Internal Audit.

3. To what extent do you agree or disagree with the following statements as far as this institution is concerned?

1 =Strongly Agree; 2= Agree; 3= Neutral; 4= Disagree; 5= Strongly Disagree

	<i>Identifying and managing risk</i>	1	2	3	4	5
34	Management Accept risk and establish control activities					
35	Management Prevent risk by Establishing control activities					
36	Management Avoid risk and stop carrying out that activity because they consider risk to be extremely significant					
37	Management Establish the reason why the risk exist.					
38	Management Prioritize list of risks					
39	Risk Assessment has an impact on the internal audit					

SECTION E

Control Activities and Internal Audit.

4. To what extent do you agree or disagree that these control activities are performed within this institution?

1 =Strongly Agree; 2= Agree; 3= Neutral; 4= Disagree; 5= Strongly Disagree

	<i>Risk Measures</i>	1	2	3	4	5
40	Management put in place directive control activities to guide the organization toward its desired outcome.					
41	Management develops preventive control activities to deter the occurrence of an undesirable event.					
42	Management establish proper supervision					
43	There is separation of duties among employees for payment initiation, payment approval functions etc.					
44	Management safeguard assets by restricting access to resources and information					
	<i>Computer Systems Control</i>	1	2	3	4	5
45	Disabling employee user ID and password when on vacation or leave					
46	Ensuring all PCs are current with virus protection and are protected by firewalls					
47	Management educate employees never to share passwords					
48	Encrypting data on employees' PCs.					
49	Adequate backup and disaster recovery procedures for preventing or reducing the risks related to system failure,					
50	Control activities have influence on internal audit.					

SECTION F

Information and Communication and Internal Audit

5. To what extent do you agree that the following information and communication indicators are performed within this institution?

1 =Strongly Agree; 2= Agree; 3= Neutral; 4= Disagree; 5= Strongly Disagree

	<i>Clear internal communication</i>	1	2	3	4	5
51	Employees are informed of their duties and responsibilities					
52	Employees report sensitive matters					
53	Employees are able to provide suggestions for improvement					
54	Employees are provided with the necessary information to carry out their responsibilities effectively					
55	There is a relationship between information and communication and the internal audit performance					

SECTION G

Monitoring and Internal Audit

6. To what extent do you agree or disagree with the following compliance assurance indicators as far as this institution is concerned?

1 =Strongly Agree; 2= Agree; 3= Neutral; 4= Disagree; 5= Strongly Disagree

	<i>Compliance assurance</i>	1	2	3	4	5
56	Effective monitoring is performed by staff persons; supervisors, mid-level managers and executive managers					
57	Control activities are established such that it is difficult for controls to be overridden and collusion for fraudulent purposes to be possible.					
58	Controls are in line with organization's missions					
59	Continuous evaluation is performed through self-assessment (by internal auditors), independent assessment (by external auditors) and assessment of the System of Internal Control					
60	Monitoring has an impact on internal audit performance.					

THANK YOU.

Table 3.1 Details of the Measurement Constructs of the Model

1.	Internal Audit
Y ₁	<ul style="list-style-type: none"> Assurance of no risk
1.	Control Environment
	<i>Ethical Values</i>
X ₁	<ul style="list-style-type: none"> Commitment to honesty and fairness
X ₂	<ul style="list-style-type: none"> Recognition of and adherence to laws and policies
X ₃	<ul style="list-style-type: none"> Respect for the organization
X ₄	<ul style="list-style-type: none"> Leadership by example
X ₅	<ul style="list-style-type: none"> Commitment to excellence
X ₆	<ul style="list-style-type: none"> Respect for authority
X ₇	<ul style="list-style-type: none"> Respect for employees' rights; and conformance to professional standards
	<i>Integrity</i>
X ₈	<ul style="list-style-type: none"> Establishing and publishing a code of conduct
X ₉	<ul style="list-style-type: none"> Complying with the organization's ethical values and code of conduct
X ₁₀	<ul style="list-style-type: none"> Rewarding employee commitment to the organization's ethical values
X ₁₁	<ul style="list-style-type: none"> Establishing methods for reporting ethical violations
X ₁₂	<ul style="list-style-type: none"> Consistently enforcing disciplinary practices for all ethical violations.
	<i>Competence of employees</i>
X ₁₃	<ul style="list-style-type: none"> Establishing levels of knowledge and skill required for every position
X ₁₄	<ul style="list-style-type: none"> Verifying the qualifications of job candidates
X ₁₅	<ul style="list-style-type: none"> Hiring and promoting only those with the required knowledge and skills
X ₁₆	<ul style="list-style-type: none"> Establishing training programs that help employees increase their knowledge and skills.
	<i>Morale of employees</i>
X ₁₇	<ul style="list-style-type: none"> Opinions of employees and contributions are welcomed, valued and recognized
X ₁₈	<ul style="list-style-type: none"> The organization is willing to help improve the level of competency of employee
X ₁₉	<ul style="list-style-type: none"> There is opportunity for continuous improvement
X ₂₀	<ul style="list-style-type: none"> They have a stake in the mission, goals and objectives of the organization
X ₂₁	<ul style="list-style-type: none"> The organization's appraisal and reward systems are fair
X ₂₂	<ul style="list-style-type: none"> The lines of communication are open.
2.	Communication and Information flow
	<i>Clear internal communication</i>
X ₂₃	<ul style="list-style-type: none"> Inform employees of their duties and responsibilities;
X ₂₄	<ul style="list-style-type: none"> Reporting sensitive matters;
X ₂₅	<ul style="list-style-type: none"> Enable employees to provide suggestions for improvement;
X ₂₆	<ul style="list-style-type: none"> Provide the information necessary for all employees to carry out their responsibilities effectively
X ₂₇	<ul style="list-style-type: none"> Convey top management's message that internal control responsibilities are important and should be taken seriously.
4.	RISK ASSESSMENT
	<i>Identifying and managing risk</i>
X ₂₈	<ul style="list-style-type: none"> Accepting risk and avoid establishing control activities because management do not consider the risk to be significant.

X ₂₉	<ul style="list-style-type: none"> Preventing or reducing risk by Establishing control activities because management considers the risk to be significant.
X ₃₀	<ul style="list-style-type: none"> Avoiding risk and stop carrying out the function because management considers the risk to be extremely significant.
X ₃₁	<ul style="list-style-type: none"> Establishing the reason why the risk exists to help identify all the alternative control activities that could prevent or reduce the risk
X ₃₂	<ul style="list-style-type: none"> Prioritizing list of risks to help decide how to distribute resources among the various control activities used to reduce the risks.
5.	Control Activities
	<i>Risk Measures</i>
X ₃₃	<ul style="list-style-type: none"> Putting in place directive control activities that take the form of laws, regulations, guidelines, policies and written procedures to guide the organization toward its desired outcome.
X ₃₄	<ul style="list-style-type: none"> Development of Preventive control activities that are designed to deter the occurrence of an undesirable event such as a system for predicting potential problems before they occur and implementing ways to avoid them.
X ₃₅	<ul style="list-style-type: none"> Designing detective control activities to identify undesirable events that do occur, and alert management about what has happened to enable them to take corrective action promptly. Example is identifying a staff having access to all information without the consent of senior staff
X ₃₆	<ul style="list-style-type: none"> Ensuring Corrective control activities that keep focus on undesirable conditions until they are corrected. They may also help in setting up procedures to prevent recurrence of the undesirable condition. Such as a system that keep a focus on a staff identified to have access to all information without the consent of senior staff until his access is regulated or denied.
	<i>Documentation of the organizations system of internal control</i>
X ₃₇	<ul style="list-style-type: none"> Approval is based on the level of risk to which the organization would be exposed without such approval
X ₃₈	<ul style="list-style-type: none"> Authorization is always approved by management before they are used by employees
X ₃₉	<ul style="list-style-type: none"> Certification of all that is needed to be verified based on the risk profile of the organization. Example is verifying that there is a need for a purchase, and that a fair price has been obtained.
X ₄₀	<ul style="list-style-type: none"> Proper Supervision
X ₄₁	<ul style="list-style-type: none"> Separation of Duties among employees for payment initiation, payment approval functions etc.
X ₄₂	<ul style="list-style-type: none"> Safeguarding assets by restricting access to resources and information to help reduce the risk of unauthorized use or loss.
	<i>Computer Systems Control</i>
X ₄₃	<ul style="list-style-type: none"> Use of fraud blocking services to protect government agencies accounts from unauthorized debits
X ₄₄	<ul style="list-style-type: none"> Requiring monthly password resets with strong password formats
X ₄₅	<ul style="list-style-type: none"> Disabling employee user ID when on vacation or leave
X ₄₆	<ul style="list-style-type: none"> Removing unnecessary entitlements from employees
X ₄₇	<ul style="list-style-type: none"> Rotating duties among employees and ensure full week vacations are taken to assist with prevention of collusion
X ₄₈	<ul style="list-style-type: none"> Avoid setting up super users but rather setting up controls requiring two or more users to initiate payment.

X ₄₉	<ul style="list-style-type: none"> Ensuring all PCs are current with virus protection and are protected by firewalls.
X ₅₀	<ul style="list-style-type: none"> Being cautious of file sharing and disabling this capability if possible.
X ₅₁	<ul style="list-style-type: none"> IP restriction for key files or applications, including online cash management services.
X ₅₂	<ul style="list-style-type: none"> Educating employees never to share passwords or to divulge account or log-in credential information to anyone, including fraudulent online e-mail solicitations from an imposter posing as organization's financial institutions.
X ₅₃	<ul style="list-style-type: none"> Encrypting data on employees' PCs.
X ₅₄	<ul style="list-style-type: none"> Adequate backup and disaster recovery procedures for preventing or reducing the risks related to system failure, power loss or other potential threats to the systems or data, by arranging for storage of backup copies of files at a secure off-site location;
X ₅₅	<ul style="list-style-type: none"> Putting in place Output controls to ensure that system generated information is accurate and that only authorized users receive this information.
6.	Monitoring
	<i>Compliance assurance</i>
X ₅₆	<ul style="list-style-type: none"> Effective monitoring is performed by staff persons; supervisors, mid-level managers and executive managers
X ₅₇	<ul style="list-style-type: none"> Control activities are established such that it is difficult for controls to be overridden and collusion for fraudulent purposes to be possible.
X ₅₈	<ul style="list-style-type: none"> Controls are in line with organization's missions
X ₅₉	<ul style="list-style-type: none"> Continuous evaluation through self-assessment (by internal auditors), independent assessment (by external auditors) and assessment of the System of Internal Control

Source: (COSO Framework, 2012)