

UNIVERSITY OF EDUCATION, WINNEBA

**FACTORS AFFECTING EFFECTIVENESS OF INTERNAL AUDIT
FUNCTION IN PUBLIC AND PRIVATE UNIVERSITIES IN GHANA**

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MASTER OF DEGREE IN ACCOUNTING



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IN PUBLIC AND PRIVATE UNIVERSITIES IN GHANA**

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**A dissertation in the Department of Accounting,
School of Business, submitted to the School of
Graduate Studies, in partial fulfilment
of the requirements for the award of the degree of
Master of Business Administration
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in the University of Education, Winneba**

NOVEMBER, 2022

DECLARATION

Student's Declaration

I, Mercy Abena Quansah, hereby declare that this dissertation with the exception of quotations and references contained in published works which have been identified and duly acknowledged, is the result of my own original research, and that no part of it has been presented for another degree in this University or elsewhere

Signature:

Date:



Supervisor's Declaration

I hereby declare that the preparation and presentation of this dissertation was supervised in accordance with the guidelines on supervision of dissertation as laid down by the University of Education, Winneba.

MR SAMUEL GAMELI GADZO (SUPERVISOR):

Signature:

Date:

DEDICATION

I dedicate this Dissertation to my parents and siblings and Mr. Ernest Mensah.



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I am greatly indebted to my supervisor Mr. Samuel Gameli Gadzo, who devoted valuable time to guide this work. His splendid academic judgment, thoroughness and fine research talents which were of enormous assistance to me in bringing this study into completion.

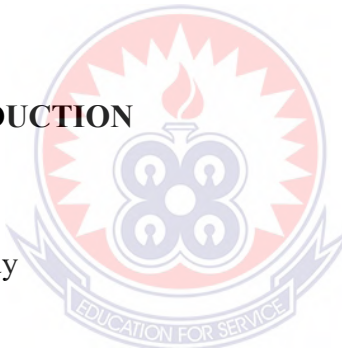
Also, I express my heartfelt appreciation to all my lectures who out of their busy schedules encourage me and gave me the needed support to complete this work

I also want to pay a well-deserved respect to the universities used in this study for allowing me access to the universities to collect data. I am also grateful to all who took their time off to participate in this study by responding to the questionnaires.



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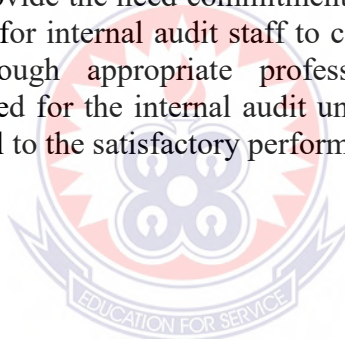
LIST OF ABBREVIATIONS

ACCA	Association of Chartered Certified Accountants
ATU	Accra Technical University
CIMA	Chartered Institute of Management Accountants
CUC	Central University College
GTUC	Ghana Technology University College
HND	Higher National Diploma
IAF	Internal Auditing Function
ICAG	Institute of Chartered Accountants Ghana
IIA	Institute of Internal Auditors
ISPPIA	International Standards for the Professional Practice of Internal Auditing
IT	Information technology
PUC	Pentecost University College
UPSA	University of Professional Studies Accra
VVU	Valley View University



ABSTRACT

Internal audit function among the public universities is found to be partially competent to determine the efficiency of risk management, control, and good governance. More so, the independence of internal auditors' function was self-determining to exercise good governance and financial irregularities in most public universities in Ghana. Considering the role of internal auditing in assuring the efficiency and effectiveness of an organisation's operations, as well as compliance with laws, rules, regulations, policies and procedures, this study set out to investigate the factors affecting effectiveness of internal audit function in universities. Data were collected through questionnaires from employees of internal audit units of public and private universities in Accra. The data were analysed with the use of multiple regression analysis. The study results show that there is no difference between the factors that affect the effectiveness of internal audit function in public universities and private universities. therefore, internal factors that affect internal audit effectiveness of both the public and private universities are management commitment and support, competence, independence, quality and IT. The external factors are regulation, external auditors and effective audit committee and this is influenced by personal characteristics such as education and experience of internal audit staff. The study recommended that management of the universities should provide the need commitment and support for their internal audit unit. Also, there is the need for internal audit staff to collectively possess or develop their knowledge and skills through appropriate professional courses and development programmes There is the need for the internal audit unit to have autonomy in performing their duties and this is critical to the satisfactory performance of an internal auditing unit.



CHAPTER ONE

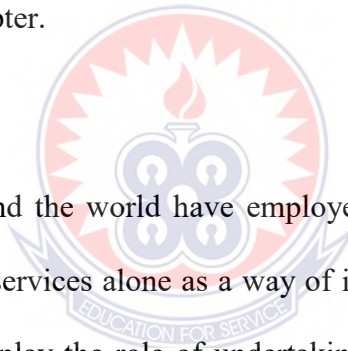
INTRODUCTION

1.0 Overview

Internal auditing plays an important role in organisations today as it helps management evaluate controls and performance with the aim of ensuring that they perform at its highest level in accomplishing goals objectives (Institute of Internal Auditors (IIA), 2012). This chapter provides an insight into internal audit and internal audit efficiency, the problem statement, and objectives of the study. The research questions, significance of the study, delimitation and organization of the study are presented in this chapter.

1.1 Background of the Study

Many cooperate institutions around the world have employed internal auditing services rather than relying on external auditing services alone as a way of improving their internal operations. Internal auditors in organisations play the role of undertaking an independent examination and giving assurance on various operations of institutions aimed at enhancing organisational performance every day (IIA), 2012). This enables an organization to meet its operational objectives through well thought-out and dedicated approaches to evaluate and improve on how best to manage risk, institute effective controls and enhance governance. The broad view of internal audit places it more centrally as an important element of public expenditure management that also encompasses management controls and information communication processes (Ali *et al.*, 2017).



Internal auditors become key by informing the public sector as a result of principle-agent relationship that exists between the executive and the public (Mokono & Nasieku, 2018). Internal auditors help in safeguarding organization resources and are expected to give a continuous account of how the resources have been used and enable continuous assessment on whether the feedback meets public objectives and expectations and whether these are well balanced to reduce the risks inherent in the principal-agent relationship (Ahmet, 2021).

Traditionally, internal auditing services were found in corporate industries being driven by high risk on company finances. Expansion of internal audit areas of focus has attracted the necessity for different institutions, including higher education to invest in internal auditing services (Demeke *et al.*, 2020). All institutions are striving towards the achievement of their set strategic objectives. The academic sector has joined manufacturing, business, and finance enterprises to enjoy the inherent benefits associated with internal auditing services in strengthening their operations and ensuring direct alignment of internal operations with objectives (Demeke *et al.*, 2020). Lenz and Hahn (2015), attested that investment in internal auditing services is associated with the value it adds to strategic objectives, operational objectives, compliance objectives, and financial reporting objectives of an institution. Internal auditors as internal evaluators of institutional processes assume an autonomous examination of different activities of the institution ranging from governance issues, risk management processes, and internal controls (George *et al.*, 2015; Oussii & Boulila Taktak, 2018). In that way, internal auditing services help in governing operations of an institution that relies on internal auditors to give an independent opinion and advisory support on whether internal controls are operating effectively, and that inherent risks are seamlessly managed.

In Ghana, public sector auditing practice has undergone significant legal administrative reforms in recent years. These reforms include the introduction of the new Public Financial Management (Public Investment Management) Regulations, 2020, the Law on Public Financial Management Act, 2016 (Act 912); the change of Audit Report Implementation Committee to Audit Committee; the Surcharge Regime and Internally Generated Funds allocation to public institutions. The Public Financial Management Act 2016, Act 912 promulgates the financial management of the public sector to guide the persons entrusted with public funds to provide accounting and audit of public funds. Thus, the Act regulates the financial management of the public sector provides significant strengths to public sector financial discipline in order to achieve effectiveness and efficient use of public resources

The desire to produce an effective internal audit function to meet the demands of different institutions has caused stiff competition in the auditing market. This has led to a dilemma in effectively deciding on which internal auditing function to implement, whether to implement an in-house internal auditing function or to outsource internal auditing functions to an external service provider, or even use both functions. Accordingly, not all internal auditing functions can help institutions to achieve their objectives, but only those that are effective (Salehi, 2016). The effectiveness of internal auditing has been defined by Dittenhofer (2001), as the potential of the internal auditing function to achieve its set objectives. Also, the effectiveness of internal auditing function has been denoted as an issue of great concern to many researchers, internal auditing professionals and auditing clients (Alzeban & Gwilliam, 2014; Lenz *et al.*, 2017). It is value-driven because it was designed to help its clients to improve internal effectiveness of business operations and it remains a huge challenge when internal auditing functions do not sever its purpose.

Many cooperate institutions around the world have employed internal auditing services rather than relying on external auditing services alone as a way of improving their internal operations. In Ghana, universities have established internal audit departments to guide their overall operations. It is important to note that establishing an internal auditing department does not guarantee operational efficiency and effectiveness, reliability of financial reporting and compliance. Researchers have also called for internal auditing studies on public tertiary educational institutions due to the fact that these institutions focus on research and teaching activities, rather than administrative issues like accountability (Dellai & Omri, 2016; Arena, 2013; Siyaya et al., 2021). It is therefore against this backdrop that this seeks to investigate factors affecting effectiveness of internal audit function in universities.

1.2 Problem Statement

This study is founded on practical problem and empirical problem associated with the effectiveness of internal audit functions in the universities especially public universities in Ghana. Studies conducted on public universities in Kumasi discovered that the internal audit function among the public universities is partially competent to determine the efficiency of risk management, control, and good governance (Asare-Baffour et al., 2022). Asare-Baffour *et al.* (2022) further, disclosed that the independence of internal auditors' function was self-determining to exercise good governance. These outcomes confirm the findings of the Auditor General's Report (2019) on Technical Universities in Ghana. The report implicated the Technical Universities on financial irregularities which comprised misapplication of funds, non-retirement of imprest, unapproved expenditures and non-payment of Internally Generated Funds into the Consolidated Fund. These occurred as a result of laxity in expenditure control, flagrant disregard for financial regulations pertaining to disbursement of funds in the Public Sector, and

failure of Heads of Finance to control disbursement of funds and ensure that transactions were properly authenticated (Auditor General, 2019). Furthermore, Auditor General's Report (2021) has revealed that total irregularities in public sector organisations in 2021 stood at ₵17.48 billion in 2022, the latest 2021 and this is a 36.0% or ₵4.62 billion rise from ₵12.856 billion in 2020. Also, a survey by the Ghana Statistical Service (GSS) has revealed that about ₵5 billion in bribes were paid in both the private and public sector, and that the public sectors 26.7% public sector officials were engaged in bribery acts, whilst 9.1% were officials from the private sector (GSS, 2021).

The above raises relevant issues about the effectiveness of internal auditing in universities in Ghana. One intriguing question that begs for answer is what factors affect the effectiveness of internal audit functions of public universities in Ghana? This question is of relevance especially considering the role of internal auditing in assuring the efficiency and effectiveness of an organisation's operations, as well as compliance with laws, rules, regulations, policies and procedures (Al-Matari, 2014). The main source of motivation for this study is that copious of previous studies have focused on external auditing effectiveness but with little attention paid to internal auditing effectiveness (Dellai & Omri, 2016). In view of these outcomes, it is imperative that, the research and teaching activities engaged in by these institutions give rise to expenditure, an internal audit system should be implemented to check corruption in this area and improve financial accountability hence the need for this study to contribute to bridging the literature gap.

1.3 Purpose of the Study

The main objective of this study is to investigate the factors affecting effectiveness of internal audit function in public and private universities.

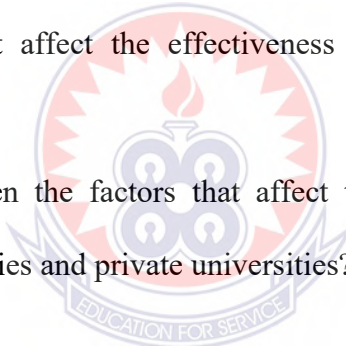
1.4 Objectives of the Study

The specific objectives are to:

- i. evaluate the effectiveness of the internal audit system in public and private universities.
- ii. examine the factors that affect the effectiveness of internal audit function in the universities.
- iii. identify the difference between the factors that affect the effectiveness of internal audit function in public universities and private universities.

1.5 Research Questions

- i. What is the effectiveness of the internal audit system in public and private universities?
- ii. What are the factors that affect the effectiveness of internal audit function in the universities?
- iii. Is there difference between the factors that affect the effectiveness of internal audit function in public universities and private universities?



1.6 Significance of the Study

The study is of significance for three main reasons namely policy, practice and research. With regards to policy, it has shown that there is scanty empirical study on effectiveness of internal audit function in universities especially in Ghana. As a result, there is lack of appropriate recommendations for policy direction especially on how to ensure improved financial accountability of universities to enable them play significant role in the economy.

Furthermore, the study provided relevant information for universities in Ghana on how management commitment and support, level of competence of internal audit staff and the independence of internal auditors influencing the effectiveness of internal audit function. In

effect, the study makes useful recommendations for practice by helping the internal audit departments and units in universities to formulate audit strategies that ensure effective internal auditing in the universities.

The findings of this study would help the university to achieve sound corporate governance in the school and improve the effectiveness of its internal audit. Management of the university would be able to assess the current situation of the effectiveness of the internal audit function and improve upon it. Other responsible institutions, which have the internal audit departments but are inactive, can also benefit from the study by knowing the importance of the internal audit department and their role in reviving it, and organisations that do not have internal audit departments might use this information as a guide in establishing the internal audit unit.

Last but not the least, as stated earlier even though there have been extant researches on the subject matter there is paucity of knowledge on universities in especially in Ghana. Therefore, this study will add to body of knowledge on factors affecting effectiveness of internal audit function in public and private universities in Ghana. Other researchers will find this study useful source for references. Additionally, the study made appropriate suggestions for advancing on knowledge in similar field of study.

1.7 Scope of the Study

Geographically, the study focused on public and private universities in the Greater Accra Region.

The research is centered on the internal audit function of six selected universities, thus three public and three private universities in the Greater Accra Region. The public universities are the Ghana Technology University College (GTUC), University of Professional Studies Accra

(UPSA) and Accra Technical University (ATU), while the private universities are the Central University College (CUC), Valley View University (VVU) and Pentecost University College (PUC). The study used employees of the Internal Audit Unit of the selected universities.

In terms of concepts, the study dwelt on management commitment and support, level of competence of internal audit staff and independence of internal auditors and their influence on effectiveness of internal audit function.

1.8 Limitation of the Study

The analysis of the data was based on statistical models in drawing conclusions on the factors affecting effectiveness of internal audit function in universities. The interpretation and conclusions are completely rigid and based on the data be obtained. Therefore, the findings and conclusion of the study are dependent on the accuracy and adequacy of data available at the time to the study. The study investigates factors affecting effectiveness of internal audit function in universities with emphasis on a comparative study of selected public and private universities in Ghana using only two universities. These two universities do not serve as a fair representation of the public and private universities in Ghana. Therefore, the conclusions cannot be generalised to cover all universities in Ghana.

1.9 Organisation of the Study

The study is structured into five chapters. The first chapter is the introduction and this contains the background, problem statement, objectives, significance, scope and limitations and organization of the study. In the second chapter, the study reviews related studies on factors affecting effectiveness of internal audit function in universities. This chapter also deals with other sub-topics relating to the topic under study. The third chapter discusses the methodology

and this contains the research design, population, sampling methods, methods and sources of data collection as well as data analysis method. The data collected from the field work are analyzed in chapter four of this study. The research findings are interpreted and discussed in this chapter while chapter five provides summary, conclusion and recommendations for policy implication and suggestions for further studies.



CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter reviews the relevant existing literature on the subject matter. Thus, the study reviews related studies on factors affecting effectiveness of internal audit function. Also, the chapter reviews theoretical underpinnings of this study and these include the agency theory, contingency theory and stakeholder theory. Definitions and explanations of the key concepts of internal audit and internal audit effectiveness, public sector audit, tertiary institutions are also provided in this chapter. The conceptual framework developed based on the empirical studies and hypotheses are also presented in the chapter.

2.1 Theoretical Framework

Theoretically, the study is guided by the agency theory, contingency theory and stakeholder theory. These theories help in explaining the phenomenon of internal auditing more systematically.

2.1.1 Agency Theory

According to Eisenhardt (2015), agency theory is concerned with resolving problems that can exist in agency relationships; that is, between principals (such as shareholders) and agents of the principals (company executives). The two problems that agency theory addresses are: the problems that arise when the desires or goals of the principal and agent are in conflict, and the principal is unable to verify what the agent is actually doing and the problems that arise when the principal and agent have different attitudes towards risk (Badara & Saidin, 2014).

According to Alzeban and Gwilliam (2014), such an intermediary is an auditor examining financial statements that may contain incomplete or unreliable financial information, which may be caused by the fact that the principal evaluates the agent's actions, among others, on their basis. It should be noted here that the financial area (including the audit of financial statements) may also be of interest to an internal auditor.

Agency theory can be employed to test empirically whether cross-sectional variations between internal auditing practices reflect the different contracting relationships emanating from differences in organizational form (Eisenhardt, 2015). In light of the agency theory, an internal audit contributes to the reduction of the asymmetry of information. In the agency theory, the main goal of an internal auditor is to reduce the scale of ineffectiveness related to the asymmetry of information between the principal and the agent. Therefore, it can be considered as a tool for ensuring corporate governance is understood as balancing the expectations of all members of the organization and their egocentric behavior (Dobija, 2017).

Applying the agency theory to the current study, it can be said that in the public sector, the agency is guided by the public financial management regulations and Act of Parliament. In effect, auditing of the public sector is guaranteed by the 1992 Constitution of Ghana and the Internal Audit Agency (IAA) Act, 2003 (Act 658). However, in the private sector internal audit is guided by internal control systems with oversight carried by Committee on Internal Control and External Auditors engaged by the company.

2.1.2 Contingency Theory

Contingency theory is a behavioral theory developed by Badara and Saidin (2013) which posited that there is no best way to manage. In line with this, Haldma and Laats (2012) also pointed out

that there is no perfect way to provide a good management accounting system but rather depend upon some contingencies to dictate the best option of management accounting system in each particular condition. In this regard, this research provided that internal audit effectiveness can be best explained through contingency theory.

Several researches have used contingency theory in attainment of effectiveness at organizational level (Haldma & Laats, 2012). Contingency theory is used to explain the relationship between two or more variables (Badara & Saidin, 2013).

Ebimobowei and Binaebi (2013) stated that there is no standard method by which organizations can be led, controlled and managed. Organizations and their functions depend on various external and internal factors. The functions of audits are themselves, types of organizations that are affected by various factors in the environment. The presence of such factors is why auditing can be managed by applying the contingency theory, with a recognition that processes and outcomes of audits are dependent on variable and contingent factors. Audit teams use a mix of structure and contingency to get the output rolling quickly. The subject of auditing projects can include such diverse areas as evaluation of production processes, inspection of company accounts, and assessment of compliance with industry standards. Selecting auditors with specialized training or those who have a particular skill set in the subject area minimizes the learning curve and reduces opportunities for errors.

2.1.3 Stakeholder Theory

With the stakeholder theory, it is held that an organisation is not an entity that only operates for its own interests but must provide benefits to its stakeholders (shareholders, creditors, consumers, suppliers, government, society, analysts and other parties). Therefore, it can be argued that in an activity the company is influenced by external and internal factors of the

company called stakeholders whose actions can affect the effectiveness of internal audit. This theory was originally detailed by Freeman (1984) and the theory identifies and models the groups which are stakeholders of a corporation. It is a theory of organizational management and business ethics that addresses morals and values in managing an organization. In the traditional view of the firm, the shareholder view, the shareholders or stockholders are the owners of the company, and the firm has a binding fiduciary duty to put their needs first, to increase value for them.

Stakeholder theory argues that there are other parties involved, including employees, customers, suppliers, communities/governmental bodies, political groups, trade associations, and trade unions. Even competitors are sometimes counted as stakeholders - their status being derived from their capacity to affect the firm and its stakeholders. The nature of what is a stakeholder is highly contested (Miles, 2012), with hundreds of definitions existing in the academic literature.

2.1.4 Stewardship Theory

Stewardship theory may be valuable, particularly for the purpose of understanding the interactions that exist among important employees, their customers, and organization (Hernandez, 2012). Therefore, governance strategy that is based on stewardship principles are more effective when important employees such as internal auditors develop strong relationships with their organization. In this vein, organizations that have helpful stewards and equally has stewardship planning can easily direct their resources toward maximizing firm performance (Davis et al., 2014). Likewise, the top management within the local government can equally ensure the achievement of internal audit effectiveness through their stewardship approach in ensuring the proper functioning of those antecedents and the effective audit committee within the councils. This is because; provisions and utilization of resources within the public sector setting

are the stewardship responsibility of the governing bodies of such government organizations (International Federation of Accountants, 2001).

2.2 Empirical Review

2.2.1 Effectiveness of Internal Audit System in Public Institutions

Most governmental reforms introduced present a change process in order to accomplish goals particularly in the public higher educational institutions. Within these institutions, the government is responsible for their budgets control, policies steering and monitoring achievements (Ali, 2018). Therefore, their services rendered are highly monitored for funding purposes. Nevertheless, due to the high national expenditure, there has been a reduction in the funding of these institutions but at the same time, they are expected to publicly account and demonstrate value for money in not only teaching activities but in administrative services as well. Thus, internal audit has become a critical function to these educational institutions, due to the role internal audit plays against fraud and corruption. Furthermore, research on internal auditing in government higher education institutions has not been fully explored (Al-Matari, 2014).

This study extends prior studies by investigating issues on IA work effectiveness and characteristics that influence IA work in tertiary educational institutions. This study narrows the search within the public sector to tertiary institutions. Furthermore, a study by Mihret and Yismaw (2017) uses one of Ethiopia's major public higher educational institutions to examine the elements.

that influence IAE. They used variables including management support, auditee attributes, internal audit quality and organizational settings to examine the phenomenon above. Their results show that IAE is strongly influenced by management support and internal audit quality,

whereas organizational settings and auditee attributes do not have a strong influence on IAE. Consequently, this research uses different set of variables to address the issue at hand.

Similarly, Al-Matari (2014) investigates the features of an internal audit unit in higher education. The empirical findings suggest that Italian university's internal audit characteristics present issues like the hierarchical situation of the IAF, skills, and competencies of internal auditors and the type of audit activities performed. For this reason, it is essential for researchers to gain an in-depth knowledge of internal audit effectiveness of the higher educational institutions at the country level. It is argued that researchers in Ghana have not focused on this area of research. In response to these calls, this research examines the effectiveness of internal audit work in the Ghanaian tertiary education institution.

Research conducted by Zakaria, Selvaraj and Zakaria (2016) examined the establishment of the internal audit function in higher education in Malaysia. They used a sample of 17 public universities and 49 private universities. Their results reveal that all the universities have established IAFs and their scope includes the areas mentioned in the auditing standards. It is evident that their study did not consider the extent to which the higher education institutions engage in audit processes. Consequently, they advocate for further studies relating to auditing processes within the education sector. In addition, Ahmad (2015) asserts there is still limited empirical evidence concerning internal audit in higher education.

Different authors have defined the term „effectiveness“ in various ways. For example, Arena and Azzone (2009) cited in Badara and Saidin (2013) defined effectiveness as „the capacity to obtain results that are consistent with targets. According to Dittenhofer (2017), effectiveness is the

achievement of internal auditing goals and objectives using the factor measures provided for determining such factors.

The IIA defines Internal Auditing as an “independent objective assurance and consulting service that is established to improve the operations of an organization, effectiveness of the corporate governance, risk management and internal controls of the organization”. IIA further defines “Effectiveness as the degree to which objectives established are accomplishment” (IIA, 2016). Similarly, Dittenhofer (2017) defines internal audit effectiveness as the achievement of internal audit objectives. Every internal audit function (IAF) must clearly state and achieve their objectives in order to be effective. Dittenhofer (2001) However, since most of the audit objectives within the organization are initiated by the head of the IAF, it is evident that IAE is associated with management capacity (Azzali & Mazza, 2018). Moreover, Badara and Saidin (2013) states that IAE is greatly dependent on the ability to achieve set objectives within the IAF, which has effect on the ability to detect fraud and error within the organization.

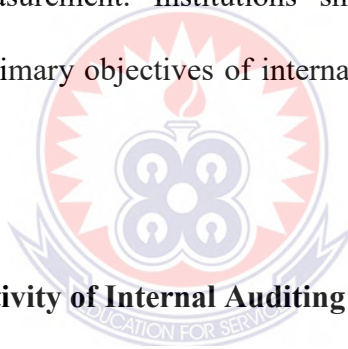
However, Al-Twajry, Brierley and Gwilliam, (2013) present a different opinion employing the compliance with the standards for the professional practice of internal auditing as an indicator for internal audit effectiveness. Contrary to this, Mihert et al. (2014) suggests that an IAF is effective when it achieves its goals in terms of annual audit plans compared to audits executed. Consequently, this study adopts the definition of effectiveness as the performance of internal audit work in terms of the ability to plan audit work and the ability to accomplish such planned work as an approach to examine internal audit work effectiveness.

All the three authors defined effectiveness regarding achieving the internal auditing (IA) goals and objectives, though interpreted in different ways. Mihret and Yismaw (2007) described the characteristics of effective internal audit unit from the internal audit point of view. Effective IA

is characterised by the following features: undertakes an independent evaluation of financial and operating systems and procedures; contributes to the achievement of organisational goals; needs management's commitment to implement recommendations; provides useful recommendations for improvements as necessary; affects negatively by lack of attention from management, which, in turn, adversely affects the auditee attributes.

2.2.2 Factors affecting the effectiveness of Internal Audit

The concept of internal auditing effectiveness has been considered subjective and less studied in the auditing literature (Dellai & Omri, 2016). This subjectivity can be associated with a lack of unapproved criteria for its measurement. Institutions should examine the internal audit effectiveness to accomplish the primary objectives of internal auditing function (IAF) (Demeke et al., 2020).



2.2.1.1 Independence and Objectivity of Internal Auditing

The term „*independence*“ has been stressed for external auditors in the past because these auditors are external to the institution being audited. In recent years, professional bodies and standard setters have emphasised strongly, the importance of the independence of internal auditors (Al-Akra *et al.*, 2016; Oriakhi, 2020).

Internal audit independence and authority are important concepts that enable the function to operate without interference and provide effective feedback to management on how to continuously enhance effective control policies (Wang & Fargher, 2017). Schneider (2014) found that the increased frequency of financial reporting and external audit failures motivated the internal audit profession to seek greater autonomy in the organization structure and in countries

where the role of internal audit is highly valued, functional reporting moved from senior officers in the organization to specific committees“ setup under the boards and that report to the board of directors. The auditing services offered by internal auditors are achieved through internal auditor“s independence and where internal auditors lack independence, they would normally fail to perform to the expectation of the organization (Kadondi, 2012).

Schneider (2014) found that internal auditors“ role in achieving objectivity in the organization is largely affected by their economic status and that lack of clear reward systems. Schneider found that when rewards were not given to internal auditors, the internal audit operations could be influenced by management and this would affect their reports and may result in unreliable reports to the organization.

In contrast, clear rewards linked to performance influenced internal auditors“ intent to report any violation in the organization. Hence, internal auditors fail to achieve their performance due to lack of support from management, insufficient resources and failure to receive support from executive as well as poor relationship in the organization (Wang & Fargher, 2017).

The International Standards for the Professional Practice of Internal Auditing (ISPPIA) necessitate that an internal auditing unit of an institution should be independent and that internal auditors be objective while performing their internal auditing activities. ISPPIA recommends that to ensure an appropriate level of independence and objectivity of internal auditors, the head of internal auditing unit should report administratively to senior management and functionally to the audit committee of the board of directors. Internal auditors should have unrestricted access to records, personnel and departments, avoid any conflict of interest, and not perform non-audit activities (Coetzee & Erasmus, 2017; Institute of Internal Auditors, 2017). Furthermore, ISPPIA

emphasises that the access of chief audit executive to the board of directors and senior management be unlimited to allow for full independence of the department.

A decrease in the effectiveness of is evidence from prior studies that found low independence status of internal auditors in the public sector when compared to other factors such as competence of internal auditing unit, size of internal auditing unit, relationship between internal and external auditors, and management support, this factor is considered very crucial for the success of internal audit function (Alzeban & Gwilliam, 2014). However, there is a contrast in the current studies that have revealed a higher level of independence of internal auditors (Oriakhi, 2020; Pham & Nguyen, 2021).

2.2.2.2 Internal Auditors Working Environment

IIA (2012) indicates that effective public sector internal audit focuses on achieving good governance. Internal auditors play a critical role in promoting governance that is critical in the organization for the promotion accountability and transparency in financial management, reduction of risk and minimizing corruption. In this respect, it is important for the internal audit functions and structure to be effective to achieve the intended objectives and internal auditors should be empowered to take action with integrity and offer reliable information for action to be undertaken (IIA, 2012).

Organizations view internal auditor's role as a tool to improve effectiveness in management of organization's resources. In many occasions, internal auditors work under poor working conditions and many times management fail to support their role and despise them as unworthy in the organization and fail to allocate sufficient resources to the internal audit function (Morgan, 2009). Insufficient attention by top management is a negative indicator of the importance of the

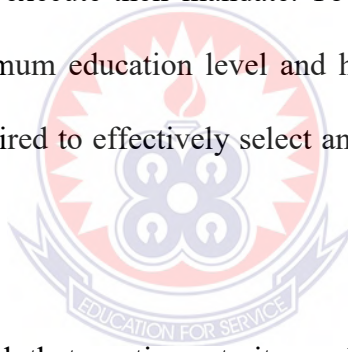
internal audit function and this affects the performance of internal auditors (Mihret & Yismaw, 2011). In addition, insufficient knowledge on the role of the internal auditors results in poor performance (Mihret & Yismaw, 2014). Cattrysse (2014) carried out a study investigating the role of internal auditors in organizations. The study found that internal auditors maintain the structure of organizations internal operations but also noted that the main problem facing the internal auditor is poor working conditions that create an unfavorable working environment.

According to Hack (2013), 89% of respondents indicated that risk assessment was normally conducted in their respective organizations to support the internal audit planning process. However, training needs remained critical as only 44% of the respondents had the skills and he noted that training of internal auditors was critical as lack of auditing skills hinders performance of the internal audit function. Research by the American Accounting Association (2012) on issues of competency pointed out that internal auditors should engage in those services for which they have the necessary knowledge, skills, and experience and that they should perform duties in accordance with the standards; and continually improve their proficiency and effectiveness

2.2.2.3 Competence of Internal Auditors

The competence of internal auditors has been highlighted as a strong determinant by almost every study of internal auditing effectiveness. The competency of internal auditors is important in promoting good governance and ensuring effective utilization of public resources. The internal audit function personnel both at the audit committee level and at actual internal auditors should be qualified, competent and knowledgeable to enable them perform their duties effectively. Morgan (2019) posited that internal auditors needed to be experienced and have the expertise.

The uniqueness of internal auditor's competency is fostered by ensuring internal auditor's independence, expertise, integrity and diligence to perform their role effectively (DeZoort, 2012). In organizations with internal auditors with high competency levels, there is a positive correlation with performance which results in overall more effective corporate governance. Lack of experience, expertise, knowledge and qualification on auditing practices hinders performance of internal auditors. Kariuki (2014) posited that internal auditors in a firm should be competent professionals. Lack of adequate understanding when coupled with low level of knowledge on auditing operations poses a major threat to the achievement of high performance. The audit function requires internal auditors to be competent with high professional qualification with required experience to effectively execute their mandate. To achieve good governance, internal auditors must have attained minimum education level and have good professional standing in auditing. The chief auditor is required to effectively select and recruit highly trained and skilled internal auditors (Kunkel, 2014).



Wu et al. (2017) have suggested that motives, traits, and self-concepts are different from knowledge and skills in that they are essential features of character that are not easy to acquire through training. By contrast, knowledge and skills can be revealed and developed through training intervention. Alzeban & Gwilliam (2014) have associated competence with the level of education, working experience in a field of internal auditing, professional qualifications, and training, all of which assist auditors to add value and improve institutional performance. The general experience of internal auditors relates to the years of experience, skills, knowledge, training, and expertise (Shamki & Alhajri, 2017). This requirement is consistent with internal auditing standard 1210, which states that "*internal auditors must possess high skills, knowledge*

and competencies to perform their responsibilities” (Institute of Internal Auditors, 2017:23). Furthermore, Demeke *et al.* (2020) have associated auditing experience with skills and knowledge that an auditor develops with long practices in the internal auditing field.

Prior studies have claimed that the competence of an internal auditor is an important determinant of internal auditing effectiveness (Ali, 2018; Baharud-din *et al.*, 2014; Salehi, 2016). Wu *et al.* (2017) have shared that competence of internal auditors positively impacts internal auditing effectiveness, based on their problem-solving skills and their dexterity to use auditing software effectively. Consequently, the performance of internal auditors is enhanced through computer skills and abilities to solve practical problems in auditing. Moreover, the results of the study by Ahmet, (2021), have revealed that the competence of internal auditors heavily relies on the management support for internal auditing to hire highly experienced personnel to perform internal audit activities.

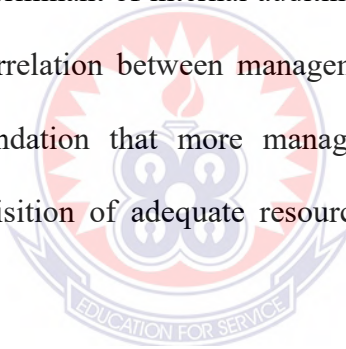
2.2.2.4 Management Support

Management support for internal auditing is vital for the recognition and appreciation of internal audit practices within an institution. Management support is crucial to the operation of internal audit because other determinants strongly depend on it (Ahmet, 2021). International standards of internal auditing state that internal auditors should be supported by the senior management and board of directors to effectively fulfil their responsibilities.

“The head of internal audit unit should encourage senior management to be involved in internal audit plan and provide them with a detailed plan of internal audit activities indicating the required resources, including significant interim changes, for senior management to review and approve for further progress with other deciding authorities in the company” (Sobel *et al.*, 2017:42).

Likewise, Alzeban and Gwilliam (2014) have opined that management support for internal audit includes the provisioning of sufficient budget for the acquisition of competent human capital and other resources that are needed for the daily operation of the function. Salehi (2016) has observed that a tone of acceptance and appreciation of internal auditing practices can send a crucial message to the entire institution about the importance of internal auditors. The support can enable internal auditing function to complete its activities and responsibilities. Dellai and Omri (2016) have associated management support as a key precursor that influences the implementation of recommendations made by internal auditors.

Whilst Lenz *et al.*, (2017) have consented that interaction between the chief audit executive and senior management is a prime determinant of internal auditing effectiveness. Moreover, Mensah *et al.* (2020) found a positive correlation between management support and internal auditing effectiveness with the recommendation that more management support for internal audit functions is needed for the acquisition of adequate resources, appropriate skills, experience, consistent development of staff.



2.2.2.5 Internal Audit Quality

Internal auditors are increasingly expected to cover a variety of responsibilities, including assisting the management to streamline the risk management process. However, quality of internal auditing is of supreme importance in executing those responsibilities. Eulerich *et al.* (2017). Zaman & Sarens (2013) have associated the quality of internal auditing unit with its interaction with other governance mechanisms such as audit committee, board of directors, and management. Mat Zain *et al.* (2015) believe that such interaction can result in internal auditors

performing their work efficiently, thus reducing external audit fees because a certain amount of work will already have been covered by internal auditors.

Recent academic studies that have examined internal audit quality as an independent variable, along with internal audit effectiveness as a dependent variable, found that there is a positive relationship between the two variables (George *et al.*, 2015; Rudhani *et al.*, 2017). Pizzini *et al.* (2015) are of the view that internal audit quality is principally driven by the proficiency of internal auditing staff. They believe that competent internal audit staff improve the quality of audit work by correctly justifying the internal audit findings, issuing accurate auditing reports, improving their communication with external auditors and achieving internal audit objectives.

2.3 Differences between Factors that affect Internal Audit in Public and Private Universities

The committee of auditors is the foundation of effective governance in many institutions (Shamki & Alhajri, 2017). The success of an audit committee is associated with its expanded scope from financial reporting to key areas that encourage institutional performance, such as risk management, compliance, and effectiveness of internal controls over operation (Institute of Internal Auditors, 2017). Moreover, literature has revealed that the transformed scope of audit committee is only possible with the help of internal auditors. Given its critical position in the institution, internal audit alerts the audit committee by providing insight into the risk facing an institution (Institute of Internal Auditors, 2017). Researchers such as Ali (2018); Dellai and Omri (2016); Erasmus and Coetzee (2018) have argued sternly that effective functioning of an internal audit function relies on the effectiveness of audit committee and that of audit committee relies on effective internal audit function. Alzeban and Gwilliam (2014) further emphasises that the two

parties should have a strong working relationship to assist internal audit to protect institutional value from risk, by providing risk-based assurance, advice, and insight to the institution.

Moreover, academic studies have shown that enough internal audit staff is positively associated with internal audit effectiveness (Alzeban & Gwilliam, 2014; Salehi, 2016). Further attention has been given to the size of an internal audit unit as one of the determinants that contribute to internal audit effectiveness after the report by Arena & Azzone (2009:38) who found that “*the failure of internal audit performance was the result of a few numbers of internal auditors in the Malaysian governmental institutions*”.

Information Technology (IT) is prevalent and significantly impacts the way business is conducted in the emerging world of fourth industrial revolution (4IR). The extensive application of IT in an institution can significantly shorten the time of processing data and support multitasking while working with computing devices. Most IT institutions have decided to adopt multiple information systems to help them with improving efficiency while concomitantly striving to achieve business objectives by harnessing the enormous intrinsic benefits of technology (Dwivedi *et al.*, 2015). Keeping information security controls up to date is a common practice of institutions to ensure information correctness, protection, reliability, and availability (Wu *et al.*, 2017). Providing an assurance that information security controls are adequate and achieving their intended purpose resides heavily on internal auditors (Henderson *et al.*, 2013).

Hence, the IIA standard 1210, A3 states that as follows:

“Internal auditors must have sufficient knowledge of key IT risks, controls and availability technology driven audit techniques to perform the assigned work. However, not all internal auditors are expected to have the expertise of an internal auditor whose

primary responsibility is information technology auditing” (Institute of Internal Auditors, 2017:44).

Henderson *et al.* (2013) states that CAAT tools can assist institutions to enhance quality of internal audit processes and make complex audit task more easily manageable. Prior researchers have perceived internal auditing effectiveness as the ability of the IAF to achieve its objectives and goals (Salehi, 2016). Based on the approved definition of the institute of internal auditors (IIA), the goal of IAF is to add value to and improve the processes of an institution. Therefore, not all IAFs are effective but only those that create value to the processes of the institution (Dellai & Omri, 2016).

There are several determinants already identified in the literature such as independence and objectivity of internal auditing; internal auditors working environment; competence of internal auditors; management support; relationship between internal and external auditors; and effective audit committee, that could affect the effectiveness of internal auditing to successfully realise its intended value. However, little research has been conducted to validate these determinants in the context of higher institutions of learning (Demeke *et al.*, 2020; Oriakhi, 2020). Furthermore, Lenz *et al.* (2017) advocated for the need to consider the recipients of internal auditing services when measuring internal auditing effectiveness.

The most prominent claim that has been observed from the previous studies is that internal auditing aims to add value to an institution by bringing effectiveness on risk management, governance, and internal control processes (Alzeban & Gwilliam, 2014; Lenz *et al.*, 2017). Dellai & Omri (2016) have attested that internal auditing creates a unique value by identifying the weaknesses in institutional processes and providing the necessary recommendations to be

implemented by senior management to improve the audited processes. However, arguments were noted in the literature regarding the appropriateness of the criteria to correctly measure internal auditing effectiveness. The implementation of recommendations by internal auditors, reliance placed by external auditors on the work of internal auditors, international standards for the professional practice of internal auditing, satisfaction of the needs of the auditee, and improvement of auditee performance was among the discussed criteria for measuring internal auditing effectiveness (Alzeban & Gwilliam, 2014; Erasmus & Coetzee, 2018; Salehi, 2016). Barisic & Tusek (2016) have alluded that measurement criteria of internal auditing effectiveness may differ from one institution to the other, which means that there are no common standard criteria of internal auditing effectiveness.

Researches have focused on the needs for audit personnel to attain high quality internal audit. Ahmad *et al.* (2019) and Ali *et al.* (2017) tested the importance of internal audit activities in Malaysia and they found that most of the qualified staff are observed on trainings, experience and

knowledge about internal auditing negatively affected the role of the internal audit and suggested that training as an important requirement for improving internal audit work. Similar results can also be observed in other studies. For instance, lack of qualified staff as one of important factors inhibiting the internal audit functions in Sudan (Brierley *et al.*, 2013; Gwilliam & El-Nafabi, 2002). Prior empirical evidences have also observed that lack of qualified staff impair the internal audit function in Ethiopian public sector (Mihret & Yismaw, 2017; Mulugeta, 2008; Wolderupheal, 2018) and continuous professional training should be enforced to encourage them to upgrade their skills. Doing audit in public sector organizations, auditors need to understand every aspect related to the governmental activities, such as organizational structure, programme

function, also the rules to carry out their works. This would help the auditors to carry out their works in a good way.

2.4 Conceptual Framework

In order to achieve the internal audit effectiveness, it is important to pay attention to the factors that might affect it. That internal audit effectiveness depended on contingency variables, they are management commitment and support, competence of the internal auditor, independence of the internal auditor, auditee support to internal audit activities, and the relationship between internal auditors as illustrated in Figure 1. More so, auditor is auditor's abilities to applied what he/ she knows to carry out audit activities properly. The Institute of Internal Audit claimed that auditors' competencies are a key element in effective internal audit activities. Having said that, internal auditors have to possess skills, knowledge and other competencies to engage in internal audit duties. Furthermore, work of internal audit is heavily used by external auditors and they tend to rely more if the audit is made with high competencies (Al-Twajjry *et al.*, 2004). Researches have focused on the needs for audit personnel to attain high quality internal audit. Ahmad *et al.* (2009) and Ali *et al.* (2007) tested the importance of internal audit activities in Malaysia and they found that most of the qualified staff are observed on trainings, experience and knowledge about internal auditing negatively affected the role of the internal audit and suggested that training as an important requirement for improving internal audit work.

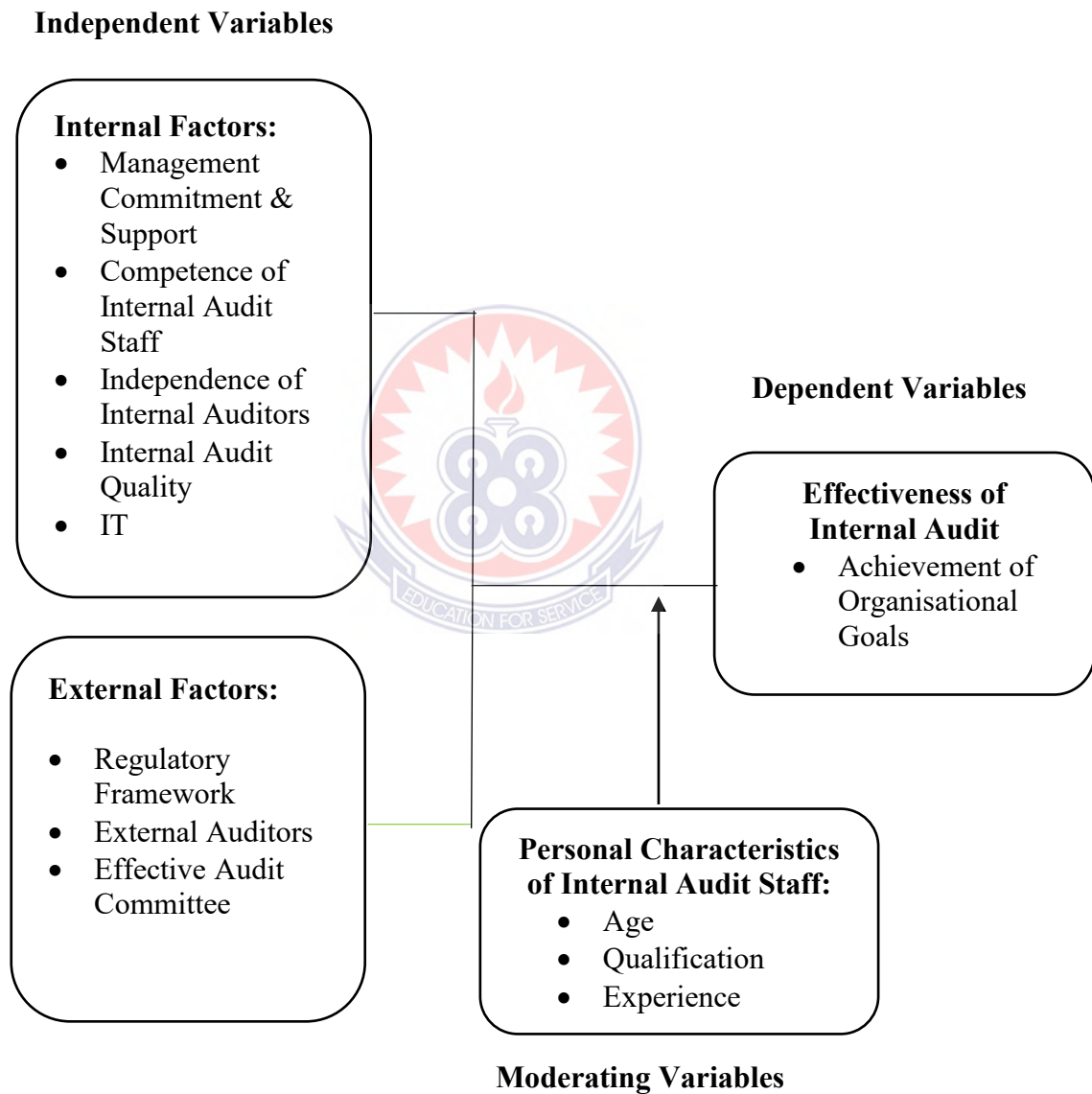


Figure 1: Author's Construct (2022)



CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter explains the method used to conduct the study. The main areas covered in this chapter are research design, philosophy, strategy, study population, sampling technique, research instruments, data collection technique, data analysis technique, model specification, variable measurement and ethical consideration.

3.1 Research Philosophy

Extant literature has identified three main groups of research philosophies namely, the positivist, interpretive and the critical realism (Bisman, 2010). The first research philosophy is the interpretive approach which relates to the understanding individuals give to the world they live in. These understanding are socially and historically constructed and theories are developed to form a meaningful pattern of understanding. The second research philosophy is the Critical realism approach. This paradigm adopts a mixed perspective to explain the phenomena instead of the purely quantitative or qualitative approach used by positivism and interpretive philosophes respectively. The third research philosophy is the positivist approach. This approach is based on the premise that the world can be described and can be explained. Over the years, positivist research philosophy has been used in accounting research due to its ability in theory construction and verification (Bisman, 2010).

According to Bisman (2010), the positivist allows for generalization which implies quantitative methodology. Furthermore, he adds that studies that seek to predict or explain a phenomenon from a theory can best achieve its objective through positivist philosophy. In line with the

explanation of the positivist approach, this study aims at explaining or predicting the factors that influence the internal audit effectiveness. In addition, a positive study involves a survey, experiment and quasi-experiment research design. Therefore, this study follows the positivist approach because this study focuses on employing a questionnaire instrument for data collection.

3.2 Research Design

According to Durrheim (2004), research design serves as a strategic framework for action, acting as a link between research questions and the execution, or implementation, of the research strategy. The study used quantitative approach and this is to obtain the pertinent information necessary for achieving the objectives of the study. In this regard, this study specifically adopted a descriptive research design. This was help describe factors affecting effectiveness of internal audit function in universities. Descriptive research is effective in gathering information about the current state of a phenomenon and describing what exists in terms of variables in a situation. According to Kothari (2004), when conducting descriptive studies, the researcher must be able to define what he or she wishes to measure and must develop adequate methods for measuring it, as well as a clear-cut definition of the 'population' to be studied. When applied to data analysis, the descriptive statistical technique aids in explaining the relationships between variables by considering the means, median, mode, and standard deviation of the variables.

The study uses the quantitative design because the positivist research philosophy is employed. The positivist philosophy requires the use of quantitative research methods which involves the use of survey approach for data collection (Bisman, 2010). The quantitative approach is chosen because it helps explain the phenomenon of internal audit effectiveness; for instance, „what factors impede public sector audit effectiveness?“ This objective can be studied successfully by employing quantitative research methods (Creswell, 2009). Furthermore, in order to predict the

score or mean of audit effectiveness of tertiary institution's internal audit unit, a statistical technique is needed. This study needs results that can be statistically explained and allows for statistical comparison between and within the various institutional groups. Thus, quantitative research is suitable, which will give a generalized pattern to be observed within a wider sample of schools.

3.3 Population of the Study

A study population is the total number of bodies eligible to participate in a particular study (Creswell, 2009). The research is centered on the internal audit function of six selected universities, thus three public and three private universities in the Greater Accra Region. The public universities are the Ghana Technology University College (GTUC), University of Professional Studies Accra (UPSA) and Accra Technical University (ATU), while the private universities are the Central University College (CUC), Valley View University (VVU) and Pentecost University College (PUC). The study used employees of the Internal Audit Unit of the selected universities. Universities are mandated to establish an internal audit department/unit to aid their accountability and fraud prevention, therefore the need to use the employees of Audit Units as the research.

3.4 Sample Size and Sampling Technique

According to May (2011), sampling is the process of selecting subsets from a population of research subjects in order to conduct detailed studies for the purpose of further generalization of results. According to Akinade and Owolabi (2009), it is irrelevant and, in some cases, impossible to reach the entire population of those for whom a study is being considered. Scientific sampling

techniques are used to determine the sample size of a large population. As Gersten *et al.* (2003) cautioned, the sample size for any study must be adequate and consistent with the study's objectives. The sample size must be "large enough" to ensure that an effect of sufficient magnitude to be scientifically significant is also statistically significant but not "too large" as well as to ensure that an effect of negligible scientific significance is statistically detectable. In this regard, Zikmund (2003) posits that researchers use samples or a set of elements (cases) that are cost-effective and manageable.

In order to select and administer questionnaires to the research participants, the multistage stratified sampling was employed. This involved dividing a population into smaller groups thus, strata (internal audit unit). The strata were organized based on the shared characteristics or attributes of the members in the group (internal auditors). The selection of the research participants was based on the characteristics or attributes of the research participants, thus based on the knowledge and understanding needed for the subject matter. The sampling technique adopted helped in reducing costs, labour requirements as well as ensuring quick access to relevant research data (Tongco, 2007).

With regards to the sample size for this study, Fraenkel and Wallen (2000) argue that there is no defined or specific answer to the question of what constitutes a sufficient or acceptable sample size for a given sample. In this regard, researchers are of the view that the suitable sample size is the one that is large to enable the researcher to achieve reasonable energy, expenditure of time and financial resources (Fraenkel & Wallen, 2000). The for universities have in total 96 employees at Internal Audit Units which consisted of GTUC having 21 employees at the internal audit unit, ATU with 17 employees, UPSA with 16 employees, CUC having 14 employees and VVU has 15 employees while PUC has 13 employees at the internal audit unit of the university.

Due to the small sample size and the purposive sampling technique employed, all the 96 employees were targeted but 77 employees were finally used as the sample size.

Table 3.1: Number of Employees in AI Unit of the Universities

No.	University	No. of Employees in AI Unit
1	Ghana Technology University College	21
	Accra Technical University	17
3	University of Professional Studies Accra	16
4	Central University College	14
5	Valley View University	15
6	Pentecost University College	13
Total		96

Source: Internal Audit Units of Selected Universities (2022)



3.5 Research Instruments

Questionnaires are widely regarded as critical instruments for the collection of primary data. It is an observational technique in which a series of items are presented to participants/ respondents in a written format, to which they are expected to respond in writing. This study which adopts a quantitative approach was, utilized questionnaires as the research instrument, making use of constructs on the three step-test approach to measuring permitted use. A brief description of the study's purpose is included in the questionnaires to provide respondents with a clear understanding of the study's purpose as well as what is expected of them, following Dillman's approach (2007). The questionnaire was structured using a five-point Likert scale where

respondents were asked to indicate their agreement or disagreement with each item in the questionnaire as follows: "1=strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree."

The questionnaire consisted of four sections; the first section entailed the personal characteristics of the respondents. The second section sought to obtain data to evaluate the effectiveness of the internal audit system in public and private universities; the third section covered the factors that affect the effectiveness of internal audit function in the universities, respectively and the fourth section focused on identifying the difference between the factors that affect the effectiveness of internal audit function public universities and private universities.

3.6 Data Collection Procedure

The collection of data plays a vital role in statistical analysis. There are numerous methods for gathering data in research, all of which fall into two categories, namely primary and secondary data (Douglas, 2015). Gathering data can be accomplished through the use of a primary source (the researcher is the first person to obtain the data) or a secondary source (the researcher obtains data that has already been collected by another source, such as data disseminated in a scientific journal) (Mesly, 2015). However, the study relied heavily on primary data because it enabled the researcher to gain access to the original information that accurately reflects the reality on the ground. Burns and Grove (2003:12) define data collection as the "precise, systematic gathering of information relevant to the research sub-problems, using methods such as questions, interviews, participant observations, focus group discussion, narratives, and case histories."

In order to collect the relevant data for the study, permission was sought from the management of the selected universities to administer the questionnaire to the respondents. The questionnaires were hand delivered to the head of the Internal Audit Units of the universities to be administered to all the 96 employees within the Internal Audit Units of the universities. The respondents were given four weeks to respond to the questionnaire. However, 77 questionnaires were retrieved from the employees. Therefore, the actual sample size for this study was 77. It is imperative to state that there is no conclusiveness on an appropriate response rate for a survey as no response rate is indicative of lesser or greater utility and accuracy of the research results based on its response rate (Morton et al., 2012). However, they were of the view what is required is for researchers to disclose every detail about the research participants, which could assist reviewers and editors to be more accurate in assessing the validity of the research findings (Morton *et al.*, 2012).

3.7 Data Analysis Techniques

According to Zikmund (2010), data analysis is the application of reasoning to comprehend the data that has been gathered with the goal of determining consistent patterns and summarizing the most critical details revealed by the research. The data obtained from the questionnaires retrieved were collated and coded for further analysis. The coding was carried out meticulously to avoid errors, and the reliability of codes was thoroughly checked for this purpose, as suggested by Kothari (2004). Throughout the analysis process, data collected were subjected to high standards to ensure credibility, transferability and trustworthiness of results for future analysis (Hair *et al.*, 2010).

The coded data were entered into the Statistical Package for Social Science (SPSS) version 21 for further data processing. The quantitative data generated were analyzed using descriptive

statistics (mean and standard deviation), frequency analysis (frequency tables) and results were presented in the form of tables and charts (Vila & Kuster, 2011). In order to test the hypotheses, multiple regression analysis thus ordinary least square (OLS) and T-test were employed. The OLS is a statistical method of analysis that estimates the relationship between one or more independent variables and a dependent variable; the method estimates the relationship by minimizing the sum of the squares in the difference between the observed and predicted values of the variables (Moore, Notz & Flinger, 2013).

Also, the T-test used in this study was used for comparing the mean of one group (effectiveness of internal audit of public universities) to a value to another (effectiveness of internal audit of private universities). T-tests are very useful because they usually perform well in the face of minor to moderate departures from normality of the underlying group distributions. The study used the t-test in determining whether there exists any relationship between the independent variable and dependent variable. The t-test was employed after the normality of the data was tested to ensure the normality is violated (Moore, Notz & Flinger, 2013).

The level of significance used in this study was 5% (0.05) to test the significance of the relationship between the variables. Any P-value that is less than the test statistic of 0.05 is considered statistically significant (Moore, Notz & Flinger, 2013).

3.8 Specification of Empirical Model

The study used regression model to investigate the factors affecting effectiveness of internal audit function in universitiess. The model is adopted from Ahmad *et al.* (2019) and Ali *et al.* (2017) and modified to include the moderating variables (age, qualification and experience). The factors were used as the independent variables represented by internal factors and these are

management commitment and support, competence of internal audit staff, independence of internal auditors, internal audit quality and IT; and the external factors are management support, external auditors, effective audit committee.

The dependent variable is effectiveness of internal audit function and this was measured by achievement of organizational goals. Thus, the study argues that effectiveness becomes the main aspect that affect the goal achievement of an organization (Mihret & Yismaw, 2017). Furthermore, the study moderated the extent to which the factors influence the effectiveness of Internal Audit by including personal characteristics of internal audit staff. The empirical model for investigating the factors affecting the effectiveness internal audit function in public and private sector is given in the equation below:

$$EFIA = \beta_0 + \beta_1INTF_1 + \beta_2EXTF_2 + \beta_3PCH_3 + \varepsilon \dots\dots\dots 1$$

Where:

EFIA denotes effectiveness of internal audit

INTF denotes internal factors;

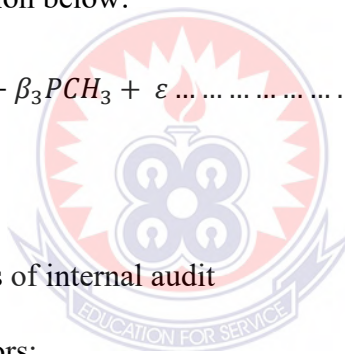
EXTF denotes external factors;

PCH denotes personal characteristics which is represented by age, qualification and experience.

β_0 denotes the constant term

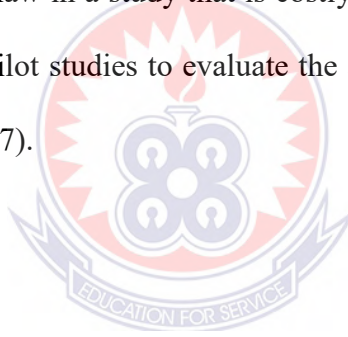
$\beta_1 - \beta_3$ denote the regression coefficients

ε denotes the error term



3.9 Pilot Study

The questionnaire was piloted with two universities, thus, one public university and one private university in Winneba. During the pilot study, 10 research participants from each university were involved to test the questionnaire. Unambiguous words were identified and suggestions were made to correct them accordingly. A pilot study is a small feasibility study designed to test various aspects of the methods planned for a larger, more rigorous, or confirmatory investigation (Arain, Campbell, Cooper, & Lancaster, 2010). The primary purpose of a pilot study is not to answer specific research questions but to prevent researchers from launching a large-scale study without adequate knowledge of the methods proposed; in essence, a pilot study is conducted to prevent the occurrence of a fatal flaw in a study that is costly in time and money (Polit & Beck, 2017). Basically, the study used pilot studies to evaluate the adequacy of their planned methods and procedures (Polit & Beck, 2017).



3.10 Diagnostic Tests

3.10.1 Reliability and Validity

The reliability and validity of a research is a critical step in research. This is because in order for a researcher to explain the empirical outcomes of a research, the integrity of the results and findings must be secured (Hair, Ringle, & Sarstedt, 2011). Similarly, Bisman (2010) affirms that the validity of a quantitative research is important to be able to acknowledge the value of richness and to draw on generalization of findings. There are two main categories of validity explained by Bisman (2010). The research argued that, validity involves the ability to test hypotheses both internally (address research problems) and externally (extend results of the study to a wider setting). This study obtained data with due care to guarantee the objectivity and validity of the findings. Finally, the use of external regulators to obtain evidences of dependent

variable of the study seeks to ensure validity and reliability. Therefore, to be able to ensure further reliability of the study, the instrument used was subjected to rigorous review by supervisors and peers before administering it to the respondents.

Furthermore, the questions used in the questionnaires were specific, neutral and were in line with the existing literature and objectives of the research. They did not in any way encourage biases. The researcher also made sure the questions were also answered by the intended respondents to safeguard the validity of the outcomes.

Also, the reliability of the study scale was measured by employing the Cronbach's Alpha values. A reliability test performed on the instruments yielded a Cronbach's Alpha greater than 0.8 for both the dependent and independent variables. It has been suggested that for the scale of a research to be regarded as reliable, a Cronbach's Alpha value for the scale must be greater than 0.6 (Malhotra, 2002; Cronbach, 1951). This proves the internal consistency of the items on the role and demonstrates that when used in a similar context, it would yield similar results. Also, the questionnaires have been used extensively by researcher in similar studies (Ahmad et al., 2019; Ali *et al*, 2017).

Table 3.2 shows the reliability test result. This test is carried out by analyzing the value of Cronbach's Alpha. The value of Cronbach's Alpha should be more than 0,6. It means that the data used in the research has no problem with the reliability. The dependent variable (effectiveness of internal audit) was constructed based previous existing literature in which the measures used in this study were indented, tested and proven reliable by the scholars. The reliability test for the dependent and independent variables were conducted using the Cronbach's Alpha and the results indicate that effectiveness of internal audit measure was 0.876; and the

independent variables are more than 0.8. These Cronbach's values are considered very satisfactory (Cronbach, 1951).



Table 3.2 Reliability Test

Variable	Cronbach's alpha	Item
Management Commitment & Support	0.976	2
Competence	0.922	2
Independence	0.882	2
Quality	0.890	2
IT	0.982	2
Regulation	0.912	2
External Auditors	0.932	2
Effective Audit Committee	0.902	2
Effectiveness of internal audit	0.876	3

Source: Field Survey Data, 2022

3.10.2 Normality

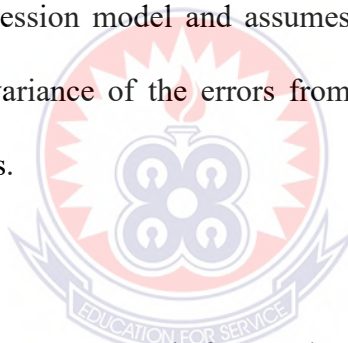
In statistics, normality tests are used to determine if a data set is well-modeled by a normal distribution and to compute how likely it is for a random variable underlying the data set to be normally distributed. The study employed the Kolmogorof-Smirnov to determine the normality of the data used in the study. The Kolmogorov-Smirnov test is used to test the null hypothesis that a set of data comes from a normal distribution. The Kolmogorov Smirnov test produces test statistics that are used (along with a degree of freedom parameter) to test for normality.

3.10.3 Multicollinearity

Multicollinearity test was done by analyzing the value of tolerance and variance inflation factor (VIF). A multicollinearity test helps to diagnose the presence of multicollinearity in a model. Multicollinearity refers to a state wherein there exists inter-association or inter-relation between two or more independent variables.

3.10.4 Heteroskedasticity

The heteroskedasticity test was done by Glejser (1969) test. In statistics, the Glejser test for heteroscedasticity, developed by Herbert Glejser, regresses the residuals on the explanatory variable that is thought to be related to the heteroscedastic variance. It was used to test for heteroskedasticity in a linear regression model and assumes that the error terms are normally distributed. It tests whether the variance of the errors from a regression is dependent on the values of the independent variables.



3.11 Ethical Consideration

According to Bhandari (2021), human research frequently aims at comprehending real-world phenomena by investigating effective treatments, examining behaviours, and improving lives in other ways. A research topic and how it is conducted requires careful consideration of critical ethical issues. These factors contribute to safeguarding the research subjects' rights, increasing the validity of research and maintaining the integrity of science. He further posits that research ethics are critical for scientific integrity, human rights and dignity, and science-society collaboration. These principles ensure that research subjects' participation is voluntary, informed, and safe.

In order to ensure that the research is done with the strictest adherence to necessary ethical conditions, prior approval was sought from the selected universities for the survey and also from the research supervisor. Again, survey participants were asked to voluntarily take the survey under the highest confidentiality arrangement. The researcher is further committed to producing a research work that is a true reflection of the data obtained. More so, the researcher ensured rigour, credibility and trustworthiness in the communication of findings for the topic under investigation.



CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.0 Introduction

This chapter presents the analysis of the data obtained from the respondents. This is aimed at investigating the factors affecting effectiveness of internal audit function in universities by conducting a comparative study of selected public and private universities in Ghana. The main areas covered in this chapter are the analysis of demographic characteristics of the respondents, the effectiveness of the internal audit system in public and private universities; factors that affect the effectiveness of internal audit function in the universities; and the difference between the factors that affect the effectiveness of internal audit function public universities and private universities.

4.1 Analysis of Personal Characteristics of Respondents

Before addressing the specific research objectives of the study, it is imperative to analyse the demographic characteristics of the respondents. This section analyses the demographic characteristics of the respondents as presented in Table 4.1. The purpose of this analysis is to find out the level of knowledge of the respondents on the subject matter. This helps in providing credence to the quality of the data provided by the respondents as well as the validity and reliability of the data obtained.

Table 4.1: Personal Characteristics of Respondents

Category	Frequency	Percentage (%)
Male	48	62.3
Female	29	37.7
Total	77	100
Age		
Less than 21	0	0
21- 30	24	31.2
31 - 40	31	40.3
41 - 50	12	15.6
51 - 60	10	13
More than 60	0	-
Total	77	100
Staff Position		
Management Staff	15	19.5
Senior Staff	21	27.3
Junior staff	29	37.7
Others	12	15.6
Total	77	100.0
Qualification		
Doctorate's degree	1	1.3
Master's degree	21	27.3
Bachelor's degree	17	22.1
HND	9	11.7
Professional	29	37.7
Total	77	100
Universities		
GTUC	18	23.4
UPSA	14	18.2
ATU	13	16.9
CUC	11	14.3
VVU	12	15.6
PUC	9	11.7
Total	77	100.0
Years of Experience		
Below 5 years	21	27.3
5 - 10 years	35	45.5
11 - 15 years	12	15.6
16 years and above	9	11.7
Total	77	100

Source: Field Survey Data, 2022

4.1.1 Gender

Gender of respondents in research such as this is an important variable, especially when it has to do with understanding the characteristics of the respondents. The results on gender distribution among the respondents are illustrated in Table 4.1. The results in Table 4.1 show that 62.3% of the respondents were males while 37.7% were females. This shows that the internal audit unit in the universities are dominated by males.

4.1.2 Ages of the Respondents

The results presented in Table 4.1 below show that majority of the respondents fall between 31 and 40 years (40.3%). This is followed by respondents within the age group of 21 – 30 years (31.2%) as can be seen in Table 4.1. Also, it is clear from the table that 15.6 of the respondents were between 41 and 50 years while 13% were aged between 51 and 60. But none of the respondents were below 21 years or more than 60 years. This finding seeks to suggest that most of the workers are in the youthful working age group and that they are best placed to provide relevant and reliable data for this study.

4.1.3 Positions of the Respondent

The study involved all the categories of the university staff at the internal audit unit. The results on this is illustrated in Table 4.1 and it shows that 19% of them were management staff, 27% were senior staff, 38% were junior staff while categories constituted 16% and this included national service personnel.

4.1.5 Educational Qualification

Educational background is also one of the variables used in this study as moderating factor. The results obtained on the educational background of the respondents are shown in Table 4.1. According to the results shown in the table, majority of the respondents (27.3%) have Professional qualifications such as chartered accountancy such as ICAG, ACCA and CIMA. This is followed by Master's degree (27.3%), First degree (22.1%) and HND (11.7%). The results indicate that the respondents involved in this study have high level of educational attainments. This means that they are best placed to express their views on the subject matter. Therefore, the data provided by the respondents contributed to achieving validity and reliability.

4.1.5 Number of Respondents from the Universities

Figure 4.3 illustrates the number of respondents from the universities used in this study. It shows that 23.4% of the respondents are from the GTUC, 18.2% from UPSA, ATU (16.9%), CUC (14.3%) and VVU (15.6%). Considering the number of employees at the internal audit unit of the universities, this finding implies that significant number of the employees responded highly to the questionnaire.

4.1.6 Years of Experience

This section analyses the number of years the respondents have been working at internal audit unit of the universities. This is to know the extent to which the respondents have understanding of the issues regarding internal audit functions. The results on the years of experience are illustrated in Table 4.1 and it is indicated that 27.3% of the respondents have been working in the internal audit unit for less than 5 years, 45.59% of the respondents have between 5 to 10 years"

work experience. Also, 15.6% have been working for 11 to 15 years and 11.7% have work experience of over 15 years. It can be inferred from these results that majority of the respondents have substantial years of experience in working in the organisation.

4.2 Diagnostic Tests

Since the study employed regression analysis in the investigation, it is important to conduct diagnostics tests to evaluate the model assumptions and investigate whether or not there are observations with a large, undue influence on the analysis. In other words, the diagnostics tests verify whether the assumptions behind the regression model are met. The following sections explain the various diagnostic tests conducted to verify the stableness and validity of the data and the underlying assumptions.

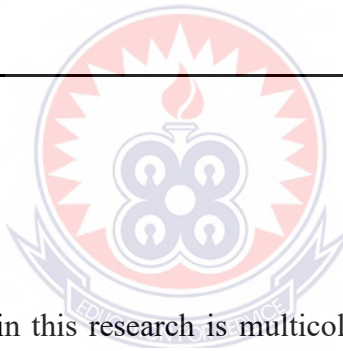
4.2.1 Normality Test

Table 4.4 shows the result of the first classic assumption test, normality test. The aim of this test is to analyze whether the data used in this research are normal distributed or not. The data classified as normal if the p value of Kolmogorof-Smirnov is more than 0.05. From Table 4.2 below, we knew that the p value is 0, 433 which means that the data used in this research are normal distributed.

Table 4.2: One-Sample Kolmogorv-Sminov Test

	Cronbach's alpha	Unstandandised
		Residua
N		77
Normal Parameters	Mean	0.000
Most Extreme Differences	St. Deviation	4.877
	Positive	0.097
	Negative	0.112
Kolmogorv-Sminov Z		8.72
Asymp. Sig. (2-tailed)		0.433

Source: Field Survey Data, 2022



4.2.3 Multicollinearity Test

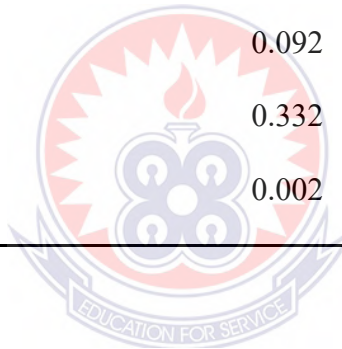
Another classic assumption done in this research is multicollinearity test. Multicollinearity is a problem when for any predictor the R^2 between that predictor and the remaining predictors is very high. The aim of this test is to analyze whether the independent variables are correlated each other. This test was done by analyzing the value of tolerance and variance inflation factor (VIF).

From Table 4.3, the value of tolerance from all independent variables are more than 0,1. While, the values of VIF are less than 10. It means that all independent variables are not correlated with each other and free from multicollinearity.

Table 4.3: Multicollinearity Test

Independent Variables	Collinearity Statistics	
	Tolerance	VIF
Management Commitment & Support	0.635	1.574
Competence	0.297	3.364
Independence	0.224	2.341
Quality	0.353	1.344
IT	0.452	1.955
Regulation	0.092	2.113
External Auditors	0.332	1.532
Effective Audit Committee	0.002	2.802

Source: Field Survey Data, 2022



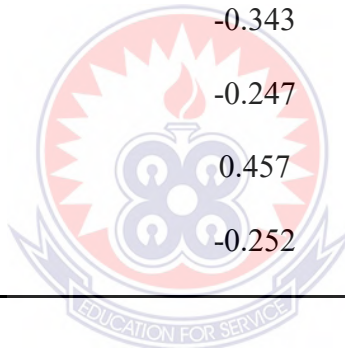
4.2.4 Heteroskedasticity

The last classic assumption test in this research is heteroskedasticity test which done by Glejser test. Table 4.4 below, shows that p values of all variables are more than 0.05. It indicates that all independent variables have no problem with heteroskedasticity.

Table 4.4: Regression Results

Independent Variables	Standardized Coefficients	t	Sig.
	Beta		
1 (Constant)		1.361	0.184
Management Commitment & Support	-0.213	-0.615	0.673
Competence	-0.077	-0.260	0.786
Independence	0.317	1.231	0.238
Quality	-0.532	-2.314	0.532
IT	-0.343	-0.525	0.533
Regulation	-0.247	-0.530	0.546
External Auditors	0.457	1.531	0.358
Effective Audit Committee	-0.252	-3.312	0.533

Source: Field Survey Data, 2022



4.3 Objective 1: Effectiveness of The Internal Audit System in Public and Private Universities

The first construct of the study is Internal Audit effectiveness which is also the dependent variable for the model. The measurement of this construct is geared towards the discussion of the results for the first objective stated in Chapter one, thus, to evaluate the effectiveness of the internal audit system in public and private universities. The respondents were asked to express their view about the effectiveness of internal audit function in their internal audit unit in the University. They were to express their views using the Liker-scale by using 1= strongly disagree,

2= slightly disagree, 3= undecided, 4= slightly agree, 5= strongly agree. The results on this are shown in Table 4.8 and according to the results in Table 4.5, majority of the respondents agreed that there is effectiveness of internal audit in the universities.

Table 4.5: Effectiveness of Internal Audit

Effectiveness Variables	Public Universities			Private Universities			Test Statistics	
	Mean	Std. Dev.	Rank	Mean	Std. Dev.	Rank	t-value	p-value
The Unit is able to achieve its goals and objectives	5.00	0.00	1	5.00	0.00	1	5.93	0.000
It contributes significantly to the achievement of the overall goals and objectives of the University	4.99	0.08	2	4.39	1.03	3	4.87	0.000
Improvement in the organisational performance	4.95	0.29	3	4.42	0.53	2	6.03	0.000

Source: Researcher's Field Survey, 2022

The results show that the mean values of the variables which indicate a value greater than 4.00. This implies that majority of the respondents agreed to the statements that the internal audit is able to achieve its goals and objectives, contributes significantly to the achievement of the overall goals and objectives of the Universities and resulting in improvement in the overall organisational performance. In addressing the hypothesis, the results as seen in Table 4.5 indicate that p-value of all the sub-variables measuring internal audit effectiveness are significant at 0.000. This seeks to suggest that there is effective internal audit system in the selected public and private universities. Therefore, there is enough evidence to reject the null hypothesis by accepting the alternate hypothesis.

4.4 Objective 2: factors that affect the effectiveness of internal audit function in the universities

The main objective of this is to examine the factors that affect the effectiveness of internal audit function in the universities. In order to establish the evidence to the findings on these objectives, the Karl Pearson's coefficient of correlation (r) was used to measure the degree of relationship between the variables and the results on these are presented in Tables 4.6, 4.7 and 4.8. Model 1 in the Tables shows the relationship between internal factors (management commitment and support, competence, independence, quality and IT) and external factors regulation, external auditors and effective audit committee) and the internal audit effectiveness in the public and private universities in Accra while Model 2 indicates the moderating effects of personal characteristics on the relationship between internal and external factors of internal audit and the internal audit effectiveness.

According to Saunders et al (2012), the value of r lies between ± 1 and the positive value of r indicates positive correlation coefficient between the variables, whereas the negative value of r indicates negative correlation. They further established that a zero value of r indicates that there is no association between the two variables, where $r = (+) 1$, it indicates perfect positive correlation and when it is $(-) 1$ which indicates perfect negative correlation and effect.

Table 4.8 displays the coefficient of determination (R^2), thus, how well the structural model has been explained. The results of the coefficient of determination (R^2) indicate a value of 0.601 for internal audit effectiveness in model 1. This evidence indicates that internal audit effectiveness model of 60.1% variance due to changes in the internal factors and external factors and by extension has a strong predictive value.

Furthermore, as part of the investigation, the study incorporated into the model personal characteristics and this is to find out whether personal characteristics such gender, education and work experience affect the influence of the management commitment and support, competence, independence, quality and IT) and external factors regulation, external auditors and effective audit committee) on internal audit effectiveness. From results in Table 4.6, it is revealed that internal audit effectiveness is further enhanced by employee personal characteristics. For instance, in Table 4.6, it is revealed in Model 2 that R and adjusted R Square values are 0.945 (94.05%) and 0.883 (88.3%) respectively while adjusted R square in model 2. Comparing the R and adjusted R Square values with that of model 1 in Table 4.6, it can be seen that Model 2 values have increased. This implies that employee personal characteristics are able to enhance internal audit effectiveness. This means that gender, education and experience influence the effect of internal and external factors on internal audit effectiveness. The next issue of concern is whether internal and external factors have significant positive effect on internal audit effectiveness. This is addressed in Table 4.7 and 4.8.

Table 4.6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.776 ^a	0.601	0.595	0.51987
2	0.945a	0.883	0.880	1.30806

a. Predictors: (Constant), management commitment & support, competence, independence, quality, IT, regulation, external auditors, effective audit committee

b. Predictors: (Constant), management commitment & support, competence, independence, quality, IT, regulation, external auditors, effective audit committee, gender, education, experience

In Table 4.7, Models 1 and 2 have p-values of 0.000 which means that there is significant relationship between management commitment and support, competence, independence, quality and IT) and external factors regulation, external auditors and effective audit committee) and effectiveness of internal audit function in public and private universities (Model 1). Also, the results show that personal characteristics have significant influence on how internal and external factors affect internal audit effectiveness (Model 2). This therefore, provides enough evidence to reject the null hypothesis that “*the effectiveness of internal audit function in public and private universities cannot be influenced by any internal or external factors.*”

Table 4.7: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	104.820	4	26.205	96.960	0.000 ^a
	Residual	69.459	257	0.270		
	Total	174.279	261			
2	Regression	108.396	9	12.044	46.068	0.000 ^b
	Residual	65.883	252	0.0261		
	Total	174.279	261			

a. Predictors: (Constant), management commitment & support, competence, independence, quality, IT, regulation, external auditors, effective audit committee

b. Predictors: (Constant), management commitment & support, competence, independence, quality, IT, regulation, external auditors, effective audit committee, gender, education, experience

c. Dependent Variable: internal audit effectiveness

The foregoing results as in Table 4.6 and Table 4.7 revealed that internal factors (management commitment and support, competence, independence, quality and IT) and external factors (regulation, external auditors and effective audit committee) affect internal audit effectiveness and this is influenced by personal characteristics of internal audit staff. This means that personal characteristics have significant moderating effects on relationship between the independent variables (internal factors and external factors) and dependent variable (internal audit effectiveness). In this regard, it is imperative to find out how each of the independent variables and moderating variables contribute to the effectiveness of internal audit effectiveness. According Table 4.8, the variables used for internal and external factors have positive effect on internal audit effectiveness and these have significant p-values.

4.4.1 Internal Factors

The results in Table 4.8 as shown in model 2, indicate that all the variables for internal factors have significant positive effect on internal audit effectiveness. For instance, the results in Model 2, the coefficient of management commitment and support is 0.183 significant at 0.003 and this implies that there is significant positive effect of management commitment and support on internal audit effectiveness.

On competence of internal audit staff, the results in model 2 as shown in Table 4.8 indicate that it has a coefficient of 0.578 and significant at 0.001. The results also revealed that independence of internal auditors has coefficient of 0.542 at a significance level of 0.001. This means that there is a positive and significant association between internal audit effectiveness and independency of internal auditors.

Furthermore, on internal audit quality, it was found to have a coefficient of 0.948 and this was significant at 0.000 which implies significant positive relationship between internal audit quality and internal audit effectiveness.

Information Technology (IT) was also found to have significant (p -value = 0.000) positive ($\beta = 0.152$) indicating significant positive relationship between IT usage and internal audit effectiveness.

4.4.2 External Factors

With regards to the external factors, the results show that regulatory framework has positive coefficient ($\beta = 0.174$) significant at 0.013. From this finding, it is indicative that regulatory framework has significant positive influence on internal audit effectiveness in the universities.

Furthermore, interaction with external auditors had coefficient of $\beta = 0.317$ and p -value = 0.002 indicating significant positive effect on internal audit effectiveness. This seeks to suggest that higher internal audit effectiveness is associated with the nice relationship between internal and external auditors.

Another external factor that was also found to have significant positive influence on internal audit effectiveness is effective audit committee ($\beta = 0.131$; p -value = 0.048).

4.4.3 Personal Characteristics

According to the results in Table 4.10, with excepting of gender which has no significant influence, qualification and experience of internal audit staff have significant positive influence on the relationship between the internal and external factors on internal audit effectiveness.

Based on the foregoing findings, the regression equation that expresses the linear relationships between the dependent variable, the independent variables and moderating variables is as shown below:

$$\hat{y} = 0.230 + 2.331MCS_1 + 0.578COM_2 + 0.542IND_3 + 0.948QLT_4 + 0.152IT_5 \\ + 0.1746REG_6 + 0.317EAC_7 + 0.131EDU_8 + 0.223EXP_9 + \varepsilon$$

In this equation, \hat{y} is the predicted value of the dependent variable (effectiveness of IA). Values of the independent variables are denoted by [(*Constant*), *management commitment & support (MCS)*, *competence (COM)*, *independence (IND)*, *quality (QLT)*, *information technology (IT)*, *regulation (REG)*, *external auditors (XTA)*, *effective audit committee (EAC)*, *education (EDU)*, *experience (EXP)*].



Table 4.8: Coefficients

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	0.900	0.173		5.212	0.000
	MCS	0.183	0.060	0.212	3.041	0.003
	COM	0.156	0.067	0.162	2.342	0.020
	IND	1.106	0.099	1.000	11.142	0.000
	QLT	0.183	0.064	0.200	2.855	0.005
	IT	0.323	0.085	0.311	3.810	0.000
	REG	0.221	0.073	0.235	3.039	0.003
	XTA	0.495	0.051	0.534	9.783	0.000
	EAC	0.272	0.064	0.287	4.263	0.000
	2	(Constant)	0.230	0.124		7.422
MCS		2.331	0.137	0.523	16.996	0.000
COM		0.578	0.167	0.131	3.454	0.001
IND		0.542	0.160	0.127	3.382	0.001
QLT		0.948	0.085	0.902	11.155	0.000
IT		0.152	0.016	0.664	9.598	0.000
REG		0.174	0.069	0.184	2.507	0.013
XTA		0.317	0.101	0.298	3.125	0.002
EAC		0.131	0.066	0.144	1.984	0.048
GEN		0.090	0.054	0.084	1.670	0.096
EDU		0.081	0.014	0.386	5.743	0.000
EXP		0.223	0.035	0.137	2.312	0.001

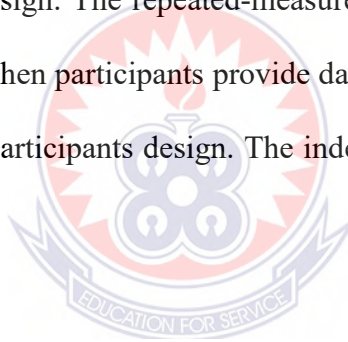
a. Predictors: (Constant), management commitment & support (MCS), competence (COM), independence (IND), quality (QLT), IT, regulation (REG), external auditors (XTA), effective audit committee (EAC)

b. Predictors: (Constant), MCS, COM, IND, QLT, REG, XTA, EAC, gender (GEN), education (EDU), experience (EXP)

c. Dependent Variable: internal audit effectiveness (IAE)

4.5 Objective 3: Difference Between the Factors Affecting the Effectiveness of Internal Audit in Public Universities and Private Universities

The third objective of the study to identify the difference between the factors that affect the effectiveness of internal audit function in public universities and private universities. In order to address this objective, the independent t-test thus the Levene's Test of Equality of Variances was conducted to assesses whether the means of the two groups (public and private universities) are statistically different from one other. T-tests are useful for analysing simple experiments or when making simple comparisons between levels of the Independent Variable. There are two variants of the t-test. The independent t-test is used when there are two separate groups of individuals or cases in a between-participants design. The repeated-measures t-test (also known as the paired-samples or related t-test) is used when participants provide data for each level or condition of the independent variable in a within-participants design. The independent t-test results are shown in Table 4.9

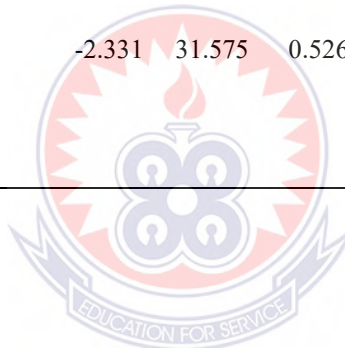


In Table 4.9, the Levene's Test of Equality of Variances presents an assumption of the independent t-test that the two groups being compared have a similar dispersion of scores (otherwise known as homogeneity or equality of variance). These columns tell whether or not this is the case. From the results, it is indicated that the value of F (5.010) is not significant, this indicates that there are no statistically significant differences in the way the data are dispersed, and the assumption of homogeneity has been met. The output (Table 4.9) has two rows: it uses one when variances are equal and the other when they are not. In this case, the variances cannot be assumed to be equal as the F-value is significant ($p = .031$). As such, it is important to read the values from the second row of the table. It is indicated that value is greater than 0.05, then

there is no enough support for the hypothesis. Since it is larger, then the alternate hypothesis is rejected in favour of the null hypothesis. This implies that there are no significant differences between the two groups, thus, the factors affecting the internal audit effectiveness in public universities and that of private universities.

Table 4.9: Levene's Test Equality of Variances

		Levene's Test Equality of Variances				t-test for Equality of Means				
		F	Sig.	T	df	Sig. (2-tailed)	Mean Dif.	Std. Error Dif.	95% Confidence Interval of the Difference	
There is difference between factors that affect IAE in Public & Private Universities	Equal variance assured	5.010	0.031	-2.331	38	0.025	-0.750	0.322	-0.401	-0.099
	Equal variance not assured			-2.331	31.575	0.526	-0.750	0.322	-1.406	0.094



4.6 Discussions on Results

4.6.1 Demographic Characteristics

One key underlying gap forming the basis of this study is how personal characteristics of internal audit staff influence the internal and external factors used in this study influence their effect on internal audit effectiveness. The personal characteristics include gender, age, education and experience. It is important to state that the inclusion of the female gender in a survey such as this was to ensure that there is a fair representation of both males and females in order to achieve the research goal. The results are, however, representative of the staff in the private universities because the males outnumber the females. It was found that except gender which has no significant influence, qualification and experience of internal audit staff have significant positive

influence on the relationship between the internal and external factors on internal audit effectiveness. This is because, internal auditors' personality traits have a strong impact on internal audit function effectiveness except for the extraversion trait. The openness to experience trait had the strongest indirect effect among the influential personality traits on the financial reporting quality

Education is one of the key characteristics of a person that affect the person's attitudes and the extent of his or her understanding of issues in a social setting. Education affects a person's attitude, reasoning and understanding of anything in a social setting. In effect, a respondent's way of thinking and responses to questions can be influenced by the level of educational attainment of that respondent. It is therefore imperative to have an understanding of the educational background of the respondents, hence the need to investigate the educational qualification of the respondents (Thomas, 2013). Moreover, responses to the survey questions of this study can also be affected by the level of education of the respondents. It is therefore important to have an understanding of the educational status of the respondents.

It important to indicate that even though the aim of internal auditors to enhance effectiveness of their functions by performing their roles independently and objectively in compliance with established professional standards, the personality traits of the internal auditors unquestionably exist and these traits influence their judgements in performing their functions (Van-Kuijck & Paresi, 2020; Parks-Leduc, Feldman & Bardi, 2015).

Moreover, lack of experience, expertise, knowledge and qualification on auditing practices hinders performance of internal auditors. Kariuki, (2010) posited that internal auditors in a firm should be competent professionals. Lack of adequate understanding when coupled with low level

of knowledge on auditing operations poses a major threat to the achievement of high performance. In Alzeban and Gwilliam (2014), the internal audit effectiveness was measured by internal auditor perception based on these indicators, the ability to make a plan, improving organizations' productivity, consistency with the goal, implementing internal audit recommendation, evaluating the risk management, evaluating the internal control system, recommendation for improvement.

4.6.2 Effectiveness of the internal audit system in public and private universities

From the findings, it is important to state that effectiveness is the measurement to evaluate whether the goals of the organization have been achieved or not. Effectiveness becomes the main aspect that affects the goal achievement of an organization. So, the organization must decide to do some activities which will help them to achieve the goals. The internal audit must be so effective that they could achieve the goals of their audit activity. Internal audit effectiveness is the measurement to evaluate whether the internal audit function is able to achieve the goal of that function. In the work of Mihret and Yismaw (2017), internal audit effectiveness is defined as „the extent to which an internal audit office meets its supposed objective or the extent to which it meets the intended outcome. Furthermore, in Arena and Azzone (2009) as cited in Badara and Saidin (2013) effectiveness has been defined as „the capacity to obtain results that are consistent with targets. To Dittenhofer (2017), effectiveness is the achievement of internal auditing goals and objectives using the factor measures provided for determining such factors. The next sections seek to find out the factors that affect the effectiveness of internal audit in the universities.

It is imperative that the findings on the effectiveness of internal audit function are in line with the contingency theory. Thus, application of contingency approach to internal audit functions by considering the internal audit function as contingent to the success of the organisation as a whole. Effectiveness contingency theory recently has become predominant theory that received larger researcher's concentration in the field of accounting and auditing (Badara, 2015). Contingency theory is usually applicable in the context of effectiveness achievement.

4.6.3 The Factors affecting effectiveness of internal audit function in the universities

Internal Factors Affecting effectiveness of internal audit function

It was found that there is significant positive effect of management commitment and support on internal audit effectiveness. This finding is consistent with Alzeban and Gwilliam (2014) where it was revealed that internal audit relationship, specifically the relationship with management, reflects in the support management gives to internal audit activities. Therefore, internal audit relationship is in relation to Management support for internal audit activities. This means that management support for effective internal auditing is considered as one of the most significant determinants by almost all studies of internal audit effectiveness. Ahmet (2021) has identified the need of management support for effective functioning of internal auditing function.

The study revealed that competency of internal audit staff has positive influence on the effectiveness of internal audit, suggesting that higher internal audit effectiveness is associated with greater competence of the internal auditors. This result is consistent with the research done by Alzeban and Gwilliam (2014). They said that auditor who has knowledge, skills, and other competencies would be able to do their duties and responsibilities related to their audit works. While, Ali (2007) and Ahmad (2009) found some facts that auditor who has no appropriate

qualifications would give negative effect to the internal audit function. This therefore, implies that an auditor must have knowledge about auditing standard, policy and audit procedure. Besides that, auditor must understand the nature of the organization being audited.

According to the results, it is established that there is a positive and significant association between internal audit effectiveness and independency of internal auditors. This result is consistent with the research done by Alzeban and Gwilliam (2014). They said that higher independency of internal auditor would affect the greater internal audit effectiveness. Brierly (2001) claimed that internal auditor should reporting to the highest level of the organization to ensure that the auditor acts independently. In effect, auditors must act independently towards the organizations being audited as the auditee. It means that, auditor must report the result of their works without any permission.

The results show significant positive relationship between internal audit quality and internal audit effectiveness. In Pizzini et al. (2015), it was revealed that internal audit quality is principally driven by the proficiency of internal auditing staff. They believe that competent internal audit staff improve the quality of audit work by correctly justifying the internal audit findings, issuing accurate auditing reports, improving their communication with external auditors and achieving internal audit objectives.

The results indicate significant positive relationship between IT usage and internal audit effectiveness. Kamere (2013) carried out a study on challenges faced in professionalizing the internal auditor's role in Kenya's industrial and Allied companies listed in the Nairobi Stock Exchange and established that the failure to realign skills to address new requirements, failure to conduct risk assessments by management, poor leveraging of ICT to attain efficiencies and

failure to cope with diminished resources, affects the performance of internal auditors. Risk assessment requires that the internal audit staff to have skilled manpower. Furthermore, the institute elaborates those auditors must be able to use computerised auditing tools to evaluate fraud risk, identify risks of material misstatement, and assess audit evidence. Likewise, Abou-El- Sood *et al.* (2015); Alkebsi and Aziz (2018) have pointed out that computerised assisted auditing tools (CAATs) assist greatly in speeding up the work of internal auditors.

The findings on internal factors are consistent with the assumption of the agency theory as applied in this study. According to Endaya and Hanefah (2013), agency theory can provide for richer and more meaningful research in the internal audit discipline. Agency theory contends that internal auditing, in common with other intervention mechanisms like financial reporting and external audit, helps to maintain cost-efficient contracting between owners and managers. Agency theory may not only help to explain the existence of internal audit in organizations but can also help explain some of the characteristics of the internal audit department, its size, and the scope of its activities, such as financial versus operational auditing.

External Factors Affecting effectiveness of internal audit function

From the findings, it was found that regulatory framework has significant positive influence on internal audit effectiveness in the universities. In Ghana internal audit has gone through several regulatory reforms some which include the new Public Financial Management (Public Investment Management) Regulations, 2020, the Law on Public Financial Management Act, 2016 (Act 912); the change of Audit Report Implementation Committee to Audit Committee; the Surcharge Regime and Internally Generated Funds allocation to public institutions. The Public Financial Management Act 2016, Act 912 promulgates the financial management of the public sector to guide the persons entrusted with public funds to provide accounting and audit of public

funds. The regulatory frameworks require every public entity internal audit unit to report on their operating systems and applications in order to obtain efficient administration of public funds. The Act, in section 83 subsections 6 and 7, state that the internal auditor shall submit a copy of its annual audit work plan and a quarterly write-up regarding the annual audit work done to the Internal Audit Agency (IAA), and the Regulator of internal auditing in Ghana. This study proposes to investigate the effectiveness of the public sector after the implementation of this significant change in requirements. As a result of public institution's reliance on government for financial support, the government of Ghana has advanced efforts in seeking for revenue generation in order to fund strategic programs and grow the economy.

Furthermore, interaction with external auditors was also found to have significant positive effect on internal audit effectiveness. This seeks to suggest that higher internal audit effectiveness is associated with the nice relationship between internal and external auditors. This result is consistent with the research done by Alzeban and Gwilliam (2014). They said that the nice relationship between those two auditors brought benefit for their works. Proper coordination would help the organization to improve public service. the said that management support from the organization being audited (auditee) has no effect on the internal audit effectiveness. This is because of the lack of respond from auditee to the recommendations made by internal auditors.

It must be noted from the findings on the external factors that the goal of an audit is to test the reliability of a company's information, policies, practices and procedures. In this regard, government regulations require that certain institutions undergo independent financial audits, but industry standards can mandate audits in other areas such as safety and technology. Regardless

of the audit subject, various factors impact a company's final results, and the contingency theory takes these factors into account during the audit process.

Furthermore, stewardship theory also affirmed that, each person within particular relationships chooses how to act, as an agent or steward (Pastoriza & Arino, 2018). Therefore, the assumptions of human nature under stewardship theory can be easily described as simplistic because it takes the assumption of objective alignment and thereby increasing structuring relationships within an organization. For this theory to be effective in government sector, the sector needs to provide a sophisticated performance measurement system in place in order to ensure goal achievement of the sector (Cribb, 2006).

4.6.4 Statistical Difference between factors affecting the effectiveness of internal audit function in public universities and private universities

The results show that there are no statistically significant differences in the way the data are dispersed, and the assumption of homogeneity has been met. This implies that there are no significant differences between the two groups, thus, the factors affecting the internal audit effectiveness in public universities and that of private universities. In Goodwin (2004), it was revealed that there is little difference between internal audit activities in the two sectors, thus public and private sectors but, private sector internal audit is perceived to lead to a greater reduction in audit fees compared to that in the public sector. Madawaki, Ahmi and Ahmad (2017), it shown that overall, public sector internal audit functions have a higher reporting status than their private sector counterparts, where more than a third of chief internal auditors" report to the chief financial officer. Further, they stated the internal audit function time spent on different internal audit activities is similar in both sectors.



CHAPTER FIVE

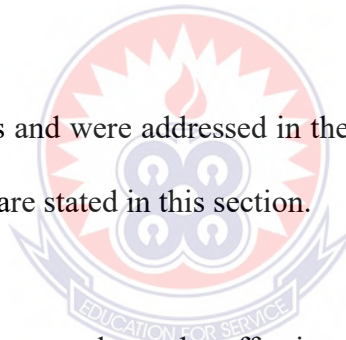
CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the summary of the main findings by addressing the specific objectives of the study. Based on the key findings, conclusions are drawn and appropriate recommendations provided. Contributions for policy, practice and research are presented in this chapter and suggestions for further studies proffered.

5.1 Summary of Findings

The outlined three main objectives and were addressed in the previous chapter. The summary of the findings revealed in this study are stated in this section.



The first objective of the study is to evaluate the effectiveness of the internal audit system in public and private universities. In this regard, the null hypothesis holds that there is no effective internal audit system in public and private universities. In addressing this objective, the study found that majority of the respondents agreed to the statements that the internal audit is able to achieve its goals and objectives, contributes significantly to the achievement of the overall goals and objectives of the universities and resulting in improvement in the overall organisational performance. This was evident by the p-value which is significant at 0.000. Therefore, there is enough evidence to reject the null hypothesis by accepting the alternate hypothesis that there is effective internal audit system in public and private universities.

The second objective of the study is to examine the factors that affect the effectiveness of internal audit function in the universities. With this, the null hypothesis maintains that the effectiveness of internal audit function in public and private universities cannot be influenced by any internal or external factors. It was revealed that internal factors that affect internal audit effectiveness of both the public and private universities are management commitment and support, competence, independence, quality and IT and the external factors are regulation, external auditors and effective audit committee and this is influenced by personal characteristics such as education and experience of internal audit staff.

In the third objective, the study sought to identify the difference between the factors that affect the effectiveness of internal audit function in public universities and private universities. With this objective, the null hypothesis is that there is no difference between the factors that affect the effectiveness of internal audit function in public universities and private universities. After using the Levene's independent t-test of Equality of Variances, it was found that there is no difference between the factors that affect the effectiveness of internal audit function in public universities and private universities.

5.2 Conclusion

The main objective of this study is to investigate the factors affecting effectiveness of internal audit function in universities by conducting a comparative study of selected public and private universities in Ghana. The study results show that there is no difference between the factors that affect the effectiveness of internal audit function in public universities and private universities. therefore, internal factors that affect internal audit effectiveness of both the public and private

universities are management commitment and support, competence, independence, quality and IT. The external factors are regulation, external auditors and effective audit committee and this is influenced by personal characteristics such as education and experience of internal audit staff. Moreover, using internal auditors' personal characteristics (education and experience) as moderating variable, internal audit effectiveness is determined by the internal and external factors and collectively the antecedents account for 80% (after adjusting for R-square) of the effectiveness of the internal audit function at the public and private universities. Therefore, the success in the implementation of internal audit tasks depends on the internal and external factors with personal characteristics playing positive and significant influential role.

5.3 Recommendations

Based on the afore mentioned findings drawn from the study, the following recommendations are provided.

It is recommended that management of the universities should provide the need commitment and support for their internal audit unit. This would help the internal audit unit to improve on its functions and contribute to the overall achievement of the goal and objectives of the universities.

Internal audit staff competencies were found to contribute to effectiveness of their functions. Therefore, there is the need for internal audit staff to collectively possess or develop their knowledge and skills through appropriate professional courses and development programmes such as obtaining Chartered Accountant certification. In lieu of this, regular in-service training should be organised for the audit personnel to sharpen their skills in order to give of their best in return.

The study indicates effective internal auditing is very important aspect in the growth of both public and private universities. In effect, the quality of their work and independence plays significant role in ensuring the overall realization of the universities' objectives. There is the need for the internal audit unit to have autonomy in performing their duties. Thus, independence of internal audit function is one of the crucial determinants that contributes significantly to the effectiveness of internal auditing in the universities. Having independence in internal auditing is a critical to the satisfactory performance of an internal auditing unit.

Also, the internal audit units of the universities should be well-resourced with IT facilities to enhance their performance as it is found to contribute positively their effectiveness. The study recommends that internal auditing in the universities should be modernized with IT innovations and this will help in risk management and governance processes. Internal audit software should be developed to help in the execution of internal audit functions. Internal auditors should be trained to use the various software used in the numerous departments in order to aid in auditing such departments.

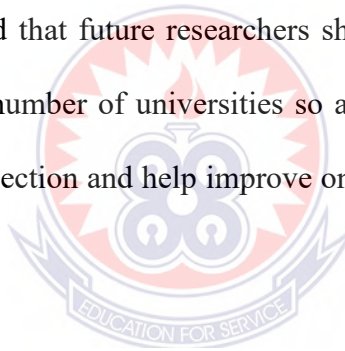
Internal auditors should be proactive in executing their duties and ensure that they follow rules, regulations, policies and procedures to help them enhance the effectiveness of internal auditing in their universities.

There should regular interactions between internal audit unit and external auditors. Thus, external auditors should provide the internal audit units with their recommendations to help the internal auditors to know their strength and weakness to improve their strategy or approach. Internal auditors should organize internal auditing workshop for other staff members so that they

can be understood better for great working relationships with external stakeholders so as have better results.

5.4 Suggestions for Further Studies

The findings of this study relied on quantitative data and statistical models in drawing conclusions on the factors affecting effectiveness of internal audit function in both public and private universities. The interpretations given thereon and conclusions drawn are completely rigid and based on the quantitative data obtained from the four selected universities. Selecting four universities limited the sample frame thereby constraining the sample size and scope of data. It is therefore, recommended that future researchers should employ both quantitative and qualitative data and increase the number of universities so as to increase the sample size. This will increase the scope of data collection and help improve on the data collected and the findings therefrom.



Another limitation is that, audit committee members were not included in the data collection. In effect, including them could help provide adequate and extensive data. Future researchers could include the audit committee members and other members in other department of the universities.

REFERENCES

- Abou- El- Sood, H., Kotb, A. & Allam, A. (2015). Exploring auditors' perceptions of the usage and importance of audit information technology. *International Journal of Auditing*, 19(3), 252-266. DOI:10.20849/abr.v3i3.513
- Ahmet, O. (2021). Factors affecting the internal audit effectiveness: A research of the Turkish private sector organizations. *Ege Academic Review*, 21(1), 1-15. DOI:10.21121/eab.873867
- Ahmad, H. N. (2015). Internal Audit Effectiveness: Resource-Based and Institutional Perspectives. *Australian Journal of Basic and Applied Sciences*, 9(9), 95–104. Available at: <https://repo.uum.edu.my/id/eprint/16184>
- Ahmad, H. N., Othman, R., Othman, R. & Jusoff, K. (2009), “The Effectiveness of Internal Audit in Malaysian Public Sector”, *Journal of Modern Accounting and Auditing*, 5(9), 53-62. doi.org/10.3390/ijfs10020037
- Al-Akra, M., Abdel-Qader, W., & Billah, M. (2016). Internal auditing in the Middle East and North Africa: A literature review. *Journal of International Accounting, Auditing and Taxation*, 26(2), 13-27. DOI: <http://dx.doi.org/doi:10.1016/j.intaccaudtax.2016.02.004>
- Alhajri, M.O. (2017). Factors associated with the size of internal audit functions: evidence from Kuwait. *Managerial Auditing Journal*, 32(1), 75-89. DOI:10.3390/ijfs10030071
- Ali, B.O. (2018). Factors influencing the effectiveness of internal audit on organizational performance. *International Journal of Advanced Engineering, Management and Science*, 4(4), 219-226. doi.org/10.22161/ijaems.4.4.1
- Ali, A. M., Gloeck, J. D., Ali, A., Ahmi, A. & Sahdan, M. H. (2017), “Internal Audit in the State and Local Governments of Malaysia”, *Southern African Journal of Accountability and Auditing Research*, 7(1), 25-57. <https://doi.org/10.5897/JAT2021.0471>
- Akinade, E. A., & Owolabi, T. (2009). *Research Method: A Pragmatic Approach for Social Sciences, Behavioural Sciences and Education*. Lagos: Connel Publication. DOI:10.30918/NJSS.74.19.028
- Aliaga, M. and Gunderson, B. (2002). Interactive statistics. Virginia. *America: Pearson Education*.
- Bhandari., P. (2021, October 18). *A guide to ethical considerations in research*. Retrieved from Scribbr: <https://www.scribbr.com/methodology/research-ethics/>
- Alkebsi, M., & Aziz, K.A. (2018). Information technology usage, top management support and internal audit effectiveness. *Asian Journal of Accounting and Governance*, 8, 123-132. doi.org/10.17576/AJAG-2017-08SI-11)
- Al-Matari, C. (2014). Factors affecting the internal audit effectiveness: A survey of the Saudi public sector. *Journal of International Accounting, Auditing and Taxation*, 23(2): 74–86.
- Al-Twajry, A. A. M., Brierley, J. A., & Gwilliam, D. R. (2013). The development of internal audit

in Saudi Arabia: An Institutional Theory Perspective. *Critical Perspectives on Accounting*, 14(5), 507–531 doi:10.1016/S1045-2354(02)00158-2

Alzeban, A., & Gwilliam, D. (2014). Factors affecting the internal audit effectiveness: A survey of the Saudi public sector. *Journal of International Accounting, Auditing and Taxation*, 23(2), 74-86.

Alzeban, Abdulaziz dan David G. (2014). Factors Affecting The Internal Audit Effectiveness: A Survey of The Saudi Public Sector. *Journal of International Accounting, Auditing and Taxation*. 23 : 74-86.

Arena, M., & Azzone, G. (2009). Identifying organizational drivers of internal audit effectiveness.

International Journal of Auditing, 13(1), 43-60.

Arain, M., Campbell, M. J., Cooper, C. L., & Lancaster, G. A. (2010). What is a pilot or feasibility

study? A review of current practice and editorial policy. *BMC Medical Research Methodology*, 10, 67. <https://doi.org/10.1186/1471-2288/10/6>

Asare-Baffour, F., Manu, D., Opoku, H., & Opong, M. (2022). Challenges and Recognition

Associated with Internal Audit function to promote good Governance System in the selected Public Universities in Ashanti Region, Ghana. *ADRRRI Journal (Multidisciplinary)*, 31(1 (8), January 2022-March), 112-137. Retrieved from <https://journals.adrri.org/index.php/adrri/article/view/835>

Auditor General (2019). Report Of the Auditor General on the Public Accounts of Ghana –

Technical Universities and Polytechnics Technical for the Period Ended 31 December 2019, Accra. Available at: <https://ghaudit.org/web/wp-content/uploads/Reports/2019/TECHNICAL-UNIVERSITIES-POLYTECHNICS-2019.pdf>

Auditor General (2021). Report of the Auditor-General on the Public Accounts of Ghana – Public

Boards, Corporations and Other Statutory Institutions For The Period Ended 31 December 2021. Available at: https://audit.gov.gh/files/audit_reports/Report_of_the_Auditor-General_on_the_Public_Accounts_of_Ghana_%E2%80%93_Public_Boards,_Corporations_and_Other_Statutory_Institutions_for_the_period_ended_31_December_2021.pdf

- Bleiklie, I., & Kogan, M. (2017). Organization and Governance of Universities. *Higher Education Policy*, 20(4), 477–493. doi:10.1016/S1045-2354(02)00158-2
- Badara, M. S. (2017). The Relevant of Contingency Theory and Stewardship Theory on the Internal Audit Research. *Journal of World Economic Research*. 6(2), 17-22. doi: 10.11648/j.jwer.20170602.11
- Badara, M.S. & Saidin, S.Z., (2013), „The journey so far on internal audit effectiveness: A calling for expansion“, *International Journal of Academic Research in Accounting, Finance and Management Sciences* 3(3), 340–351. <https://doi.org/10.6007/IJARAFMS/v3-i3/225>
- Bagozzi, R. P. & Yi, Y. (1988). On the Evaluation of Structural Equation Models. *Journal of the Academy of Marketing Science*, 16(1):74-95 doi:10.1016/S1045-2354(02)00158-2
- Baharud-din, Z., Shokiyah, A., & Ibrahim, M.S. (2014). Factors that contribute to the effectiveness of internal audit in public sector. *International Proceedings of Economics Development and Research*, 70, 126-135. DOI: 10.7763/IPEDR. 2014. V70. 24
- Barisic, I., & Tusek, B. (2016). The importance of the supportive control environment for internal audit effectiveness - the case of Croatian companies. *Economic Research-Ekonomska Istrazivanja*, 29(1), 1021-1037.
- Bern, C. R., Walton-Day, K., & Naftz, D.L. (2019). Improved enrichment factor calculations through principal component analysis: Examples from soils near breccia pipe uranium mines, Arizona, USA, *Environmental pollution*, 248, 90-100. doi:10.1016/S1045-2354(02)00158-2
- Bisman, J. (2010). Postpositivism and Accounting Research: A (Personal) Primer on Critical Realism. *Australasian Accounting, Business and Finance Journal*, 4(4), 3–25.
- Brierly, J.A., El-Nafabi, H.M., & Gwilliam, D.R. (2013). The Problems of Establishing Internal Audit in the Sudanese Public Sector. *International Journal of Auditing*, 5(1), 73 – 87
- Burns, N., & Grove, S. (2003). *Understanding nursing research*. Philadelphia: Saunder.
- Cattrysse, J. (2014). *Reflections on Corporate Governance and the Role of the Internal Auditor*. Roularta Media Group. doi:10.1016/S1045-2354(02)00158-2
- Chenhall, R. H. (2013). Management control systems design within its organizational context: Findings from contingency-based research and directions for the future. *Accounting Organizations and Society*, 28, 127–168. DOI:10.4102/ac.v20i1.778
- Coetzee, P., & Erasmus, L.J. (2017). What drives and measures public sector internal audit effectiveness? Dependent and independent variables. *International Journal of Auditing*, 21(3), 237-248. DOI: 10.7763/IPEDR. 2014. V70. 24

- Davis, J. H., Allen, M. R., & Hayes, H. D. (2014). *Is blood thicker than Water? A study of stewardship perceptions in family business. Entrepreneurship Theory and Practice*, 1093– 1116. DOI: 10.1111/j.1540-6520.2010.00415.x.
- Dellai, H., & Omri, M.A.B. (2016). Factors affecting the internal audit effectiveness in Tunisian organizations *Research Journal of Finance and Accounting*, 7(16), 208-221.
- Demeke, T., Kaur, J., & Kansal, R. (2020). The practices and effectiveness of internal auditing among public higher education institutions, Ethiopia. *American Journal of Industrial and Business Management*, 10(07), 12-19. doi:10.1016/S1045-2354(02)00158-2
- Dillman, D. (2007). Mail and internet surveys: The tailored design method, 2nd ed. *Research Gate*.
- Dittenhofer, M. (2017). *Internal audit effectiveness: An expansion of present methods, Managerial Auditing Journal*, 16(8), 443- 50.
- Dittenhofer, M. (2001). Internal auditing effectiveness: an expansion of present methods. *Managerial Auditing Journal*, 16(8): 443–450.
- D'onza, G., Sarens, G., & DeSimone, S. (2020). Factors that influence the internal audit function's maturity. *Accounting Horizons*, 34(4), 57-74.
- Douglas, B. (2015). *The Theory and Practice of Development Education: A Pedagogy for Global Social Justice*. New York: Routledge.
- Durrheim, K. (2004). Research design. In & K. In M. Terre Blanche, *Research in practice: Applied methods for the social sciences* (pp. 29-53)). Cape Town: University of Cape Town.
- Dwivedi, Y.K., Wastell, D., Laumer, S., Henriksen, H.Z., Myers, M.D., Bunker, D., & Srivastava, S.C. (2015). Research on information systems failures and successes: status update and future directions. *Information Systems Frontiers*, 17(1), 143-157. DOI: 10.7763/IPEDR.2014.V70.24
- Ebimobowei, A., & Binaebi, B. (2013). An Examination of the effectiveness of auditing of local government financial reports in Bayelsa State, Nigeria. *Current Research Journal of Social Sciences*, 5 (2) 45-53. doi:10.1016/S1045-2354(02)00158-2
- Eisenhardt K. M. (2015), Agency theory. An assessment and review, *The Academy of Management Review*, 14(1), 12-21. doi.org/10.5465/amr.1989.4279003
- Endaya, K. A., & Mohd Hanefah, M. (2013). Internal Audit Effectiveness: An Approach Proposition to Develop the Theoretical Framework. *Research Journal of Finance and Accounting*, 4(10), 92–103. DOI: 10.4236/am.2010.16065
- Epizitone, A., & Olugbara, O. (2020). Principal component analysis on morphological variability of critical success factors for enterprise resource planning. *International Journal of Advanced Computer Science and Applications (IJACSA)*, 11(5). 21-33. DOI: 10.4236/ojbm.2020.85121

- Erasmus, L., & Coetzee, P. (2018). Drivers of stakeholders' view of internal audit effectiveness: management versus audit committee. *Managerial Auditing Journal*, 33(1), 90-114.
- Fraenkel, J. R., & Wallen, N. E. (2000). *How to Design and Evaluate Research in Education*. Boston: McGraw Hill. DOI:10.4102/ac.v20i1.778
- Eulerich, M., Henseler, J., & Köhler, A.G. (2017). The internal audit dilemma – the impact of executive directors versus audit committees on internal auditing work. *Managerial Auditing Journal*, 32(9), 854-878. DOI: 10.4236/ape.2014.42011
- George, D., Theofanis, K., & Konstantinos, A. (2015). Factors associated with internal audit effectiveness: evidence from Greece. *Journal of Accounting and Taxation*, 7(7), 113-122.
- Gersten, R., Fuchs, L. S., Compton, D., Coyne, M., Greenwood, C., & Innocenti, M. S. (2003). Quality indicators for group experimental and research in special education. *Exceptional Children*, 71, 149–164.
- Ghana Statistical Service (2021). 2021 Ghana Integrity of Public Services Survey, Press Release, Accra.
- Available at:
[https://statsghana.gov.gh/gssmain/fileUpload/pressrelease/Ghana%20Integrity%20of%20Public%20Services%20Survey%20\(GIPSS\)%20Opening%20Ceremony_071221.pdf](https://statsghana.gov.gh/gssmain/fileUpload/pressrelease/Ghana%20Integrity%20of%20Public%20Services%20Survey%20(GIPSS)%20Opening%20Ceremony_071221.pdf)
- Glejser, H. (1969). A new test for heteroskedasticity. *Journal of the American Statistical Association* 64, 316-323
- Goodwin, J. (2004), "A comparison of internal audit in the private and public sectors", *Managerial Auditing Journal*, Vol. 19 No. 5, pp. 640-650.
<https://doi.org/10.1108/02686900410537766>
- Hack, S. (2013). Greater expectations for internal auditors. *CA magazine*, March 2008 issue.
- Haldma, T., & Laats, K. (2012). Contingencies influencing the management accounting practices of Estonian manufacturing companies. *Management Accounting Research*, 13, 379–400. Doi:10.1006/mare.2002.0197.
- Henderson, D.L., Davis, J.M., & Lapke, M.S. (2013). The effect of internal auditors' information technology knowledge on integrated internal audits. *International Business Research* 6(4), 1-17. doi:10.1016/S1045-2354(02)00158-2
- Hernandez, M. (2012). Toward an understanding of the psychology of stewardship. *Academy of Management Review*, 37 (2), 172–193. DOI:10.4102/ac.v20i1.778
- Institute of Internal Auditors. (2017). The international professional practices framework, Institute of Internal Auditors. In Altamonte Springs, Fl.
- Institute of Internal Auditors (2012). *The standards for the professional practice of internal auditing*. Altamonte Springs: The Institute of Internal Auditors, Research Foundation.
- International Federation of Accountants (IFAC) (2001). Governance in the public sector: A governing body perspective. International Public Sector Study. 535 Fifth Avenue, 26th Floor New York, New York 10017. United States of America. doi:10.1016/S1045-2354(02)00158-2
- Jeżak J. (2012), Ład wewnątrz korporacyjny w świetle różnych teorii a wyzwania współczesności,

- Zeszyty Naukowe Uniwersytetu Szczecińskiego nr 690, Finanse, rynki finansowe, ubezpieczenia, 51, 332-342. DOI: 10.4236/ape.2014.42011
- Kothari, C. (2004). *Research Methodology: Methods and Techniques, 2nd Edition*. New Delhi: New Age International Publishers.
- Kunkel, H. (2014). Internal audit effectiveness: An Ethiopian public sector case study. *Managerial Auditing Journal*, 22(5), 470-484. DOI:10.4102/ac.v20i1.778
- Lenz, R., & Hahn, U. (2015). A synthesis of empirical internal audit effectiveness literature pointing to new research opportunities. *Managerial Auditing Journal*, 30(1), 5-33.
- Lenz, R., Sarens, G., & Hoos, F. (2017). Internal audit effectiveness: Multiple case study research involving chief audit executives and senior management. *EDPACS*, 55(1), 1-17.
- Madawaki, A., Ahmi, A., Ahmad, H. N. (2017). Internal audit function: a comparison between private and public sector in Nigeria, SHS Web of Conferences. *FourA 2016*. Available at: https://pdfs.semanticscholar.org/da0b/19fdf413f9718ea0cf451a34b964c507c196.pdf?_ga=2.124742286.504644308.1660151808-1854001384.1657037590
- Mat Zain, M., Zaman, M., & Mohamed, Z. (2015). The effect of internal audit function quality and internal audit contribution to external audit on audit fees. *International Journal of Auditing*, 19(3), 134-147. DOI: 10.4236/ojdm.2012.21001
- Mensah, O.A., Ngwenya, B., & Pelsler, T. (2020). Investigating the impact of antecedents of internal audit function effectiveness at a private university in Ghana. *Acta Commercii*, 20(1), 1-11. DOI:10.4102/ac.v20i1.778
- Mesly, O. (2015). *Creating Models in Psychological Research*. Springer Nature , 126.
- Mihret, D. G., & Yismaw, A. W. (2014). Internal audit effectiveness: An Ethiopian public sector case study. *Managerial Auditing Journal*, 22(5), 470-484
- Mihret, D. G., & Yismaw, A. W. (2017). Internal Audit Effectiveness: An Ethiopian Public Sector Case Study. *Managerial Auditing Journal*, 22(5), 470–484. doi:10.1016/S1045-2354(02)00158-2
- Mokono, R. M. & Nasieku, T (2018). Factors Affecting Internal Auditor’s Performance in Public Universities in Kenya. *Global journal of Economics and Business Administration*, 3:11. Available at: <http://escipub.com/global-journal-of-economics-and-business-administration/>
- Moore, D. S., Notz, W. I, & Flinger, M. A. (2013). *The basic practice of statistics (6th ed.)*. New York, NY: W. H. Freeman and Company. doi.org/10.22161/ijaems.4.4.1
- Morgan, W. J. (2019), An assessment of the newly defined internal audit function, *Managerial Auditing Journal*, 17(3):56-83 doi.org/10.22161/ijaems.4.4.1
- Morton, S. M. B., Bandara, D. K., Robinson, E. M. & Carr, P. E. (2012). In the 21st Century, what is an acceptable response rate?, *Australian and New Zealand Journal of Public Health*, 36(2), 23-29. Available at:

file:///C:/Users/USER/Downloads/In_the_21st_Century_what_is_an_acceptable_response.pdf.

- Mulugeta, S. (2018). Internal Audit: Reporting Relationship in Ethiopian Public Enterprises. M.Sc. Dissertation. Ethiopia: Addis Ababa University. Available online at: <http://etd.aau.edu.et/dspace/bitstream/123456789/1966/1/Samuel%20Mulugeta.pdf>
- Oriakhi, S. (2020). Determinants of internal auditing effectiveness in tertiary institutions. *Indonesian Journal of Contemporary Accounting Research*, 2(1), 12-22. DOI: 10.4236/ojdm.2012.21001
- Oussii, A.A., & Boulila, N.T. (2018). The impact of internal audit function characteristics on internal control quality. *Managerial Auditing Journal*, 33(5), 450-469.
- Pastoriza, D., & Arino, M. A. (2008). When agents become stewards: Introducing learning in the stewardship theory, *Journal of International Business & Economics*, 13 (3) 173-186.
- Pham, D.C., & Nguyen, T.T. (2021). Factors affecting the internal audit effectiveness of steel enterprises in Vietnam. *The Journal of Asian Finance, Economics, and Business*, 8(1), 271-283. DOI: 10.4236/ojml.2019.96039
- Pizzini, M., Lin, S., & Ziegenfuss, D.E. (2015). The impact of internal audit function quality and contribution on audit delay. *Auditing: A Journal of Practice & Theory*, 34(1), 25-58.
- Polit, D. F., & Beck, C. T. (2017). Nursing research: Generating and assessing evidence for nursing practice (10th ed.). Philadelphia, PA: Wolters Kluwer/Lippincott Williams & Wilkins
- Rudhani, L.H., Vokshi, N.B., & Hashani, S. (2017). Factors contributing to the effectiveness of internal audit: Case study of internal audit in the public sector in Kosovo. *Journal of Accounting, Finance and Auditing Studies*, 3(4), 91-108.
- Salehi, T. (2016). Investigation factors affecting the effectiveness of internal auditors in the company: Case study Iran. *Review of European Studies*, 8(2), 224-235. doi.org/10.22161/ijaems.4.4.1
- Shamki, D., & Alhajri, T.A. (2017). Factors influence internal audit effectiveness. *International Journal of Business and Management*, 12(10), 143-153.
- Schneider, A. (2014). An examination of whether incentive compensation and stock ownership affect internal auditor objectivity. *Journal of Management Issues* 15 (4): 486-497
- Sobel, P.J., Anderson, U.L., Head, M.J., Ramamoorti, S., Salamasick, M., & Riddle, C. (2017). *Internal auditing: Assurance & advisory services* (4th edition ed.): Institute of Internal Auditors, The IIA Research Foundation. doi.org/10.22161/ijaems.4.4.1
- Tongco, M. (2007). Purposive Sampling as a Tool for Informant Selection. *Ethnobotany Research & Applications*, 5, 147-158. doi:10.1016/S1045-2354(02)00158-2
- Vila, N., & Kuster, I. (2011). Consumer Feelings and Behaviours towards Well Designed Websites. *Information & Management* 48, 166-177.
- Wang, I.Z., & Fargher, N. (2017). The effects of tone at the top and coordination with external

- auditors on internal auditors' fraud risk assessments. *Accounting & Finance*, 57(4), 1177-1202. doi:10.1016/S1045-2354(02)00158-2
- Wu, T.H., Huang, S.M., Huang, S.Y., & Yen, D.C. (2017). The effect of competencies, team problem-solving ability, and computer audit activity on internal audit performance. *Information Systems Frontiers*, 19(5), 1133-1148.
- Zaman, M., & Sarens, G. (2013). Informal interactions between audit committees and internal audit functions: Exploratory evidence and directions for future research. *Managerial Auditing Journal*, 28(6), 495-515. doi.org/10.22161/ijaems.4.4.1
- Zakaria, Z., Selvaraj, S. D., & Zakaria, Z. (2016). Internal auditors: Their role in the institutions of higher education in Malaysia. *Managerial Auditing Journal*, 21(9), 892–904.



APPENDIX 1

INFORMED CONSENT AND RESEARCH QUESTIONNAIRE

I am **Mercy Abena Quansah**, a graduate student from University of Education Winneba. I am carrying out a study on the topic “*Factors Affecting Effectiveness of Internal Audit Function in Public and Private Universities in Ghana.*” I am kindly asking you to participate in this study by answering the attached questionnaire.

Purpose of the study:

This study is purely for academic purpose and shall not be used for any other purpose.

Confidentiality

Survey participants will be asked to take the survey under the highest confidentiality arrangement. Any information that is obtained in the study that can be identified with the participant will not be disclosed without their permission. Names and any other identification will not be asked for in the questionnaires.

Voluntary participation

Participation in this study is voluntary. If a participant decides not to participate in this study, their decision will not affect their future relationship with the researcher. If anyone chooses to participate, they are free to withdraw their consent and discontinue participation without penalty.

Offer to answer questions

Before you sign this form, please ask any questions on any aspect of this study that is unclear to you. You may take as much time as necessary to think it over.

If you have any questions concerning this study or consent form beyond those answered by the researcher, including questions about the research, your rights as a research participant, or if you feel that you have been treated unfairly and would like to talk to someone other than the researcher, please feel free to contact me through the number below.

MERCY ABENA QUANSAH

STUDENT

CONTACT: 0249740184

RESEARCH QUESTIONNAIRE

GENERAL INSTRUCTION

You are requested to answer the following questions to the best of your knowledge by ticking (√) or marking (X) in the appropriate box that represents your view.

SECTION 1: PERSONAL CHARACTERISTICS (PCH)

The following information is required to help us understand your views better during the statistical analysis of the data.

1. What is your gender?
 - a) Male
 - b) Female
2. Which of the following age group do you belong?
 - a) Less than 21 years
 - b) 21- 30 years
 - c) 31 - 40 years
 - d) 41 - 50 years
 - e) 51 - 60 years
 - f) More than 60 years
3. What are the categories of your designation?
 - a) Management Staff
 - b) Senior Staff
 - c) Junior Staff
 - d) Others
4. What is your educational qualification (tick as many as applicable)?
 - a) Doctorate's degree
 - b) Master's degree
 - c) Bachelor's degree
 - d) HND
 - e) Professional Qualification (Please state):.....
5. Which of the following universities do you work?
 - a) Ghana Technology University College (GTUC)
 - b) University of Professional Studies Accra (UPSA)
 - c) Accra Technical University (ATU)
 - d) Central University College (CUC)
 - e) Valley View University (VUU)
 - f) Pentecost University College (PUC)
6. How many years have you been working in the internal audit unit/department?
 - a) Below 5 years
 - b) 6 -10 years
 - c) 11- 15 years

d) 16 years and above []

SECTION 2: INTERNAL FACTORS AFFECTING INTERNAL AUDIT FUNCTION

7. This section seeks your view about internal factors that affect the effectiveness of internal audit function in this University. Please you are requested to use 1= strongly disagree, 2= slightly disagree, 3= undecided, 4= slightly agree, 5= strongly agree to indicate the extent of your agreement or disagreement to the following statements.

Internal Factors (INTF)	[1]	[2]	[3]	[4]	[5]
Management Commitment & Support:					
i. Management is involved in internal audit plan and provide sufficient budget for the acquisition of competent human capital and other resources					
ii. The management of the university implement recommendations of internal auditors					
Competence of Internal Audit Staff:					
iii. The Internal auditors in the university are qualified, competent and knowledgeable					
iv. The Internal auditors in the university are experienced and have the expertise					
Independence of Internal Auditors:					
v. The Internal Audit Unit has greater autonomy in performing its functions in the university					
vi. Internal auditors in the university have unrestricted access to records, personnel and departments, avoid any conflict of interest, and not perform non-audit activities					
Internal Audit Quality:					
vii. Internal auditors in the university issue accurate audit reports					
viii. Internal auditors perform their work effectively and efficiently					
Information Technology:					
ix. The Internal Audit Unit are resourced with computerised auditing tools to evaluate fraud risk, identify risks of material misstatement and assess audit evidence					

x.	The IT tools used by the Internal Audit Unit are capable of performing complex audit tasks and ensures accurate and reliable information					
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SECTION 3: EXTERNAL FACTORS AFFECTING INTERNAL AUDIT FUNCTION

8. This section seeks your view about external factors that affect the effectiveness of internal audit function in this University. Please you requested to use 1= strongly disagree, 2= slightly disagree, 3= undecided, 4= slightly agree, 5= strongly agree to indicate the extent of your agreement or disagreement to the following statements.

EXTERNAL FACTORS (EXTF)	[1]	[2]	[3]	[4]	[5]
Regulatory Framework:					
i. There is strict compliance with the Internal Audit Agency Act 2003 (Act 658) in the university					
ii. The Internal Audit Unit in the university submit a copy of its annual audit work plan and a quarterly report to the Internal Audit Agency (IAA)					
External Auditors:					
iii. There is professional relationship between internal and external auditors					
iv. There is effective communication between internal and external auditors that create an atmosphere for external auditors help to minimising duplication of effort and reducing external audit costs					
Effective Audit Committee:					
v. There is an independent Audit Committee in this university					
vi. There is strong working relationship between Audit Committee and Internal Auditors to assist internal audit to protect institutional value					

SECTION 4: EFFECTIVENESS OF INTERNAL AUDIT FUNCTION (EFIA)

This section seeks your view about the effectiveness of internal audit function in this University. Please you requested to use 1= strongly disagree, 2= slightly disagree, 3= undecided, 4= slightly agree, 5= strongly agree to indicate the extent of your agreement or disagreement to the following statements.

Effectiveness of internal audit (EFIA)	[1]	[2]	[3]	[4]	[5]
i. The internal audit unit is able to achieve the goal of the function					
ii. The internal audit function contributes significantly to the achievement of the overall goals and objectives of the university					



THANKS SO MUCH FOR YOUR CONTRIBUTION AND TIME