



**KWARA STATE UNIVERSITY, MALETE, NIGERIA
SCHOOL OF POSTGRADUATE STUDIES (SPGS)**

**DETERMINANTS OF INTERNAL AUDIT EFFECTIVENESS IN
PUBLIC UNIVERSITIES IN THE SOUTH-WEST NIGERIA**

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MATRIC NO: 15/27/MAC021

APRIL, 2021



SCHOOL OF POSTGRADUATE STUDIES (SPGS)

**DETERMINANTS OF INTERNAL AUDIT EFFECTIVENESS IN PUBLIC
UNIVERSITIES IN THE SOUTH-WEST NIGERIA**

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April, 2021

DECLARATION PAGE

I hereby declare that this thesis titled **Determinants of Internal Audit Effectiveness in Public Universities in the South-West Nigeria** is a record of my research. It has neither been presented nor accepted in any previous application for higher degree.

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DEDICATION

This work is dedicated to my mother, Alhaja Mariam Oseni.

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Abstract

The constant reported cases of irregularities and fraudulent activities especially in the Nigerian university system which had led to loss of billions of naira as well as misappropriation of public fund had raised series of questions on the effectiveness of internal audit. Much of the blame of the reported cases of fraudulent activities in the Nigerian universities have been attributed to the ineffectiveness of internal auditors as it was believed that most of these frauds would not be perpetrated without the knowledge of the internal audit department. Therefore, this study examined factors influencing the effectiveness of internal audit in the public universities in south west Nigeria. The study used a survey research design. The population of the study is one hundred and thirty (130). The primary data obtained through the questionnaire administered to one hundred and thirty (130) respondents in both federal and state universities in the south-west region of Nigeria were analyzed using descriptive and inferential statistics. The result of the study revealed that the respondents agreed from the outcome of the survey questionnaire that management support, internal and external auditors' relationship and competency of internal auditor has a significant effect on internal audit effectiveness. The hypotheses for the study were tested using partial-least square structural equation modeling (PLS-SEM) regression analysis. The result of the study revealed that management support would lead to effective internal audit service as shown by t-value of 9.063 with p-value of 0.000 at 5% level of significance. The result also showed that the relationship between internal auditor and external auditor has a significant positive effect on internal audit effectiveness as depicted by t-value of 36.080 with p-value of 0.000 at 5% level of significance. The study further revealed that internal auditor competency would improve the performance of the internal auditor leading to effectiveness of internal audit department as supported by t-value of 6.207 with p-value of 0.000 at 5% significant of level. Therefore, this study concluded that management support, internal auditor and external auditor relationship and internal auditor competency would lead to effective internal audit service delivery in public universities of south-west Nigeria. The study therefore recommends that management of universities should provide adequate supports to the internal audit staff as well as take their recommendations during decision making process by the university.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Every year, billions of monies are lost to fraud and corruption resulting in inefficiencies, aborted projects, financial challenges, organizational failure, and in extreme cases, humanitarian disaster (Institute of Internal Auditors, 2010). This has been heavily linked to ineffective internal audit system, poorly designed controls and weak governance which have seriously affected organizations' processes and the attainment of their objectives. The menace of internal audit ineffectiveness is one of the most common challenges to governance that organizations face without regards to size, industry or location (Mensah, Ngwenya & Pelser, 2020).

Large corporate scandals and frauds have shaken both the private and public sectors over recent decades. The negative effects of these scandals are not only significant but also difficult to quantify and measure. Despite increased fraud prevention and detection methods, many frauds are only accidentally discovered after going on for prolonged periods. For instance, the Association of Certified Fraud Examiners' (ACFE) 2008 survey results stated that the United States organizations lost an estimated 7% of their annual revenues to fraud (ACFE, 2008). This percentage increased from the estimated 5% for 2006 and 6% for 2004 (ACFE, 2006). With layoffs and cuts in travel budgets for internal auditors, there is concern that as economic stresses increase due to the poor economy, there will be more instances of fraud and corruption (Sullivan, 2009; Eulerich, Kremin & Wood, 2019).

In emergent economies like Brazil, Colombia, India, amongst others, there have been experiences of excessive fiscal deficit due to the inefficiency of the internal audit department. Vanit (2010) asserts that out of one hundred and seven (107) countries in which public expenditure and financial

accountability (PEFA) assessment have been undertaken, one hundred and one (101) countries scored below average for the effectiveness of the internal audit. This indicates that globally, internal audit effectiveness is not yet as firmly established in the public sector as external audit. Kitojo (2014) also opined that one hundred and two (102) local governments out of one hundred and forty (140) local government areas in Tanzania have poor performance in the internal audit department while about sixty-eight (68) local governments and many other public offices have been reported to suffer massive theft and misappropriation of financial resources.

Nigeria had also experienced some cases of irregularities in the public sector especially in the university set-up. For instance, the case of the former Vice-Chancellor of Obafemi Awolowo University, who was sent to prison over alleged perpetration of fraudulent activity to the tune of one billion, four hundred million naira (₦1.4billion); the former Vice-Chancellor and the Bursar of the Federal University of Agriculture, Abeokuta, Ogun state, were charged to court for various cases bordering on stealing, obtaining money by false pretence and fraudulent activities. More so, the former Vice-Chancellor of the Federal University of Technology, Akure was charged with the allegation of corruption, fraud and stealing of funds of the university to the tune of one hundred and fifty-six million naira (₦156 million) (Premium Times, 11th July, 2017; The Guardian, 2018) among others. These cases raised series of questions by various stakeholders on the effectiveness of the internal audit department in the Nigerian university system.

To smoothing the activities of the internal auditors as well as reducing the occurrence of irregularities around the world, the Institute of Internal Auditors (IIA) provides mandatory guidance for internal auditors in its International Professional Practices Framework (IPPF) through the International Standards for the Practice of Internal Auditing (Standards) (IIA 2017). This clearly spelt out the qualities required of internal auditors such as professional due care, having

sufficient knowledge, analytical skill, how to report to the management and the Board as well as risk assessment (IIA, 2010). This has been largely complied with in the developed economies. However, the level of compliance with the requirements of the IIA framework in developing countries, Nigeria in particular, is low (Onoja & Haruna, 2013; Taiwo, 2019).

The guidelines and the standards issued by the global IIA are not mandatory for operational use in Nigeria, especially in the public sector. This is because its Chapter is yet to be statutorily listed as a professional auditing body in Nigeria. However, the regulatory and statutory guide of Accounting and Auditing in Nigeria are conferred on the Institute of Chartered Accountants of Nigeria (ICAN), the Association of National Accountants of Nigeria (ANAN), and different enactment, rules and regulations emanating from the Government. These bodies had formulated various standards guiding the conduct of the internal auditing profession such as the Nigerian Standards on Auditing (2013) issued by ICAN and the Professional Code of Conduct and Guide for Members by ICAN (2009), and ANAN (2014). However, the standards, just like it is in the other global Accounting standards, the application of the codes are skewed towards external auditing. Despite these regulations, the problems of internal audit ineffectiveness still persist.

For effective internal audit service, prior studies (see Alzeban & Gwilliam, 2014; Kitojo, 2014; Kabuye, Nkundabanyanga, Opiso & Nakabuye, 2017; Quick & Henrizi, 2018; Mensah, Ngwenya & Pelser, 2020; Abrar, 2020) have considered different factors that influence effective internal audit effectiveness such as the size of the internal audit department, management support, independence of the internal auditor, relationship between the internal auditor and external auditor, type of audit procedures, audit committee attributes, compliance to audit policies, risk management, organizational independence, amongst others. However, this study focused on

management support, the relationship between the internal and external auditor and the competence of internal auditor as determinants of internal audit effectiveness.

University is the highest level of an education process not only prioritizing the learning process and transfer of knowledge, but also applying a role in the search and development of science itself which can be used as a tool and solution to the problems of the society (Istifenti & Lubis, 2015). However, this educational sector, especially the higher educational institutions, cannot exist in isolation without having adequate resources (internal resources like employees, classrooms and other facilities and adequate support from external stakeholders (such as communities and partners). Effectiveness monitoring and utilization of these resources through effective internal audit service would assist the organization in achieving its objective and risk management (Faiz, Nabella & Rudi, 2016).

The internal audit department in the university system helps management in meeting its governance, risk management, compliance duties and internal control responsibilities while assisting to independently and objectively add value and improve the university operations (Arnold, 2015). This study, therefore, examines the determinants of internal audit effectiveness in the public universities in south-west Nigeria.

1.2 Statement of the Problem

The persistent reported cases of misappropriation of funds and misuse of assets in various government reports (report of the Auditor-General for the Federation, 2016), literature (Ile & Odimmega, 2018; Kehinde, Ahmad & Popoola, 2017), and national dailies have raised serious doubt in the effectiveness of internal audit which is put in place to curb fraudulent activities in the organization especially the university system. This has been attributed to the lack of independence

of the internal auditor as he is an employee of the university and going against the management could lead to his dismissal. This could be evidenced from the case of the former Vice-Chancellor of Obafemi Awolowo University, who was sent to prison over alleged one billion, four hundred million naira (₦1.4billion) fraud. In a similar case, the former Vice-Chancellor and the Bursar of the Federal University of Agriculture, Abeokuta, Ogun state, were charged to court for various cases bordering on stealing, obtaining money by false pretence and fraudulent activities. More so, the former Vice-Chancellor of the Federal University of Technology, Akure was charged with the allegation of corruption, fraud and stealing of funds of the university to the tune of one hundred and fifty-six million naira (₦156 million) (Premium Times, 11th July, 2017; The Guardian, 2018).

Lack of support from the management of universities has posed a serious challenge to the effective functioning of the internal audit department. It has been observed that management that engages in misappropriation and other irregularities would not give the required support to the internal audit department thereby leading to more perpetration of fraud by the management (Kehinde, Ahmad & Popoola, 2017). More so, the hostile relationship between the external auditors and internal auditor would worsen the level of fraud. This is because the external auditors may pose as boss, give less opportunity to the internal auditor in expressing his opinion as well as looking for more errors in the work of internal auditor thereby rejecting the internal control set by the internal audit department without coming up with means of improving upon it.

In addition, an internal audit department with staff that lacks the requisite knowledge, qualification as well as experience in audit work would not be able to do analytical and other complex work hence reduces the chance of detecting irregularities committed by the management.

Various studies (Abiola & Oyewole, 2013; Arena, 2013; Onoja & Usman, 2015; Mathenge, 2016; Drogalas, Anagnostopoulou, Pazarskis & Papachristou, 2017) had been conducted to study the

effect of internal audit characteristics on fraud prevention and these studies had reported mixed results such as positive and negative results while areas of internal audit effectiveness had few literatures (Asiedu & Deffor, 2017; Mensah, et al., 2020; Abrar, 2020). Based on the extant literature reviewed, it was observed that studies conducted in Nigeria (Unegbu & Kida, 2011; Abiola & Oyewole, 2013; Maria, 2014; Onoja & Usman, 2015) had not considered the determinants of internal audit effectiveness in Nigeria universities. More so, it was also discovered that there are scanty literatures on the effect of management support and size of the internal audit department on the effectiveness of internal audit function in Nigeria universities as the previous studies (Onoja & Haruna, 2015; Sorunke, 2016; Oyewumi, Ayoib & Popoola, 2017) had focused on independence, experience and qualification of staff of the internal audit department.

Methodologically, very large studies in Nigeria employed the chi-square statistical method (Unegbu & Kida, 2011; Onoja & Haruna, 2015; Sorunke, 2016) and ordinary least square regression analysis (Olaoye & Dada, 2017) in analyzing the determinants of internal audit effectiveness. Therefore, this study filled the gaps identified in the literature by examining the key determinants of internal audit effectiveness in the public universities in south-west Nigeria and employed a strong statistical analysis tool to establish the relationship between the independent and dependent variables.

1.3 Research Questions

The following research questions were raised and answered in the course of the study:

- i. To what extent does management support affect internal audit effectiveness in public universities in the South-West Nigeria?

- ii. How does the relationship between internal and external auditors have effect on internal audit effectiveness in public universities in the South-West Nigeria?
- iii. What is the effect of internal auditor's competence on internal audit effectiveness in public universities in the South-West Nigeria?

1.4 Objectives of the Study

The main objective of this study is to examine the determinants of internal audit effectiveness in public universities in the South-West Nigeria. In order to achieve the stated objective, the following specific objectives were spelt to:

- i. Examine the extent to which management support affects internal audit effectiveness in public universities in the South-West Nigeria
- ii. Assess the effect of the relationship between internal and external auditors on internal audit effectiveness in public universities in the south west Nigeria; and
- iii. Assess the effect of internal auditor's competence on internal audit effectiveness in public universities in the South-West Nigeria

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1.5 Statement of Research Hypotheses

To provide answers to the research questions raised above, the following hypotheses were raised and tested in the course of the study;

H₀₁: Management support of internal audit department does not have significant effect on internal audit effectiveness in public universities in the South-West Nigeria;

H₀₂: There is no significant effect on the relationship between internal and external auditors on internal audit effectiveness in public universities in the South-West Nigeria;

H₀₃: There is no significant effect of internal auditor's competence on internal audit effectiveness in public universities in the South-West Nigeria.

1.6 Justification for the Study

The researcher is motivated due to the persistent increase in the reported cases of perpetration of various forms of irregularities in the university system. This has not only posed an adverse effect on the growth of the university alone, but also the development of the nation at large. The previous empirical studies were carried out on internal audit characteristics and in some cases on effectiveness which had reported conflicting results ranging from positive, negative and indifference results (Daniela & Alexandra, 2014; Faiz, Nabella & Rudi, 2016; Drogalas et al 2017; Sholadoye, Abdullah & Isa, 2018). These studies were conducted on the stock exchange market, banking sector, public health institutions and local government. There are scanty literatures (see Unegbu & Kida, 2011; Abiola & Oyewole, 2013; Maria, 2014; Onoja & Usman, 2015; Sorunke, 2016; Oyewumi, Ayoib & Popoola, 2017; Ibronke, 2019) on the determinants of internal audit effectiveness in the public universities in south-west Nigeria.

Methodologically, a large number of the studies reviewed (see Unegbu & Kida, 2011; Onoja & Haruna, 2015; Sorunke, 2016) had used ordinary least square regression analysis and Pearson correlation technique in analyzing the relationship between the dependent variable and the independent variables while this study uses Partial Least Square Structural Equation Modeling. Some arguments against the use of OLS regression analysis are that it is sensitive to outliers and can give spurious result when used on a small sample size (Ugrinowitsch, Fellingham & Ricard, 2004). Partial least square regression takes care of these limitations.

This study, therefore, provides empirical evidence on the determinants of internal audit effectiveness in public universities in south-west Nigeria. The results of this study would be of great importance to policy-makers, management and the academic field of knowledge. The result of the study would contribute to the academic field of knowledge by adding to the few literatures on determinants of internal audit effectiveness in universities in Africa, Nigeria in particular, as most literatures on the topic in Nigeria focused on Nigeria local governments, health institution and banking industry (Unegbu & Kida, 2011; Dabari & Saidin, 2014; Onoja & Haruna, 2015; Sorunke, 2016). It will also serve as a body of reference for future researchers in the area of the determinants of internal audit effectiveness in the university context.

This study would provide vital information to the university's management regarding the importance of each component of internal audit attributes in order to improve the effective and efficient working of the internal audit department of public universities in south-west Nigeria. It will also assist the management on how to give proper attention to various internal audit attributes in order to ensure their efficient and effective management for the purpose of minimizing the level of financial irregularities and building of strong internal control system.

The study would assist regulators (NUC, ICAN and ANAN), policy-makers and other relevant university stakeholders such as the governing council, university management, offices of the Accountant General and Auditor General for the Federal and States, Committee of Heads of Internal Audit Departments/Units in Nigeria Universities (CHIADINU) in policy formulation and decision making.

1.7 Scope of the Study

This study examined the determinants of internal audit effectiveness in public universities in south-west Nigeria. The study focused on state and federal universities in south-west Nigeria. The justification for this is not only because the area has the highest number of tertiary institutions in Nigeria (Ministry of Education, 2015) but also because some of the Universities in the region are first-generation universities.

CHAPTER TWO

LITERATURE REVIEW

This chapter deals with the conceptual and empirical review which focused on the review of the determinants of internal audit effectiveness in public universities in south-west Nigeria, various theories in relation to the study and the previous empirical studies carried out on the topic.

2.1 Conceptual Review

2.1.1 Auditing and Internal Audit Effectiveness

Adeniji (2004) perceives internal audit as a review of organization of a business which may be in many respects similar to a statutory audit, but which is carried out by the employees of the business who are responsible only to management. Internal auditing is an independent, objective assurance and consulting activity designed to add value and improve an organization's operations. Its role includes detecting, preventing, and monitoring fraud risks and addressing those risks in audits and investigations (IIA, 2010).

Onoja and Haruna (2015) in Jurchescu (2010) defined internal audit as an independent and objective functional activity which provides security and management advice with the aim of ensuring effective management of public income and expenditure, ensuring proper activities within the public organization, helps the public organization to achieve their objective through systematic and methodical approaches, evaluate and improves the efficiency and effectiveness of internal control system, risk management and management processes. Unegbu and kida (2011) defined internal audit as “an aspect of the internal control system established by management of an organization in order to ensure proper compliance with the stipulated policies and procedure in order to achieve management objectives”. This definition indicates that the internal auditor is part of internal control system established within the organization with the aim of evaluating the

efficiency and effectiveness of other controls established by management. From the above definitions, internal audit can be seen as independent appraisal established within the organization with the aim of reviewing the effectiveness and efficiency of the activities of an organization, ensuring compliance with established regulations, evaluation of risk management and internal controls system of the organization.

Internal audit is an additional safeguard for proper financial control in the public sector (Badara & Saidin, 2012). The internal audit is responsible for the audit of all financial transactions by carrying out a continuous examination of all accounting books and records maintained in the organisation with a view to checking or detecting fraud and correcting errors. It is concerned with the examination of the system and procedures in place to ensure their conformity with the regulation as well as the adequacy of system of internal control. Internal auditing is an independent, objective assurance and consulting activity that adds value to and improves an organisation's operations. It helps an organisation to accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes (Institute of Internal Auditors, 2008). Internal audit can never be effective unless and until all errors are corrected and remain corrected.

Millichamp (2000) however, identified the common areas covered by internal auditing, which include among others; reviewing the internal control system with a view to determining its adequacy, reviewing compliance with government regulations and accounting rules and standards, absence of which would undermine audit effectiveness. It further asserts that the role of internal audit encompasses checking compliance with policies and procedures, safeguarding the asset of the organisation to prevent and detect errors, frauds and theft, appraising the effectiveness and efficiency in the use of resources. The unit also needs to ensure that the goals and objectives of the

organization are attained by making recommendations on improvement in the operation of the organisation, acting as an in-house consultant on control matters so as to achieve effectiveness. On the other hand, Badara (2012) stipulates the essential elements of internal audit such as independence, staffing, training, relationship, due care, planning, controlling, recording, system control, evidence and reporting. It can be deduced from these essential elements, if available that the internal audit can perform its duties effectively.

In addition, the Institute of Internal Auditor (2017) defined effective internal audit as the ability to enhance and protect organizational value by providing risk-based and objective assurance, advices and insight for the private and public sectors. In the light of the above, this study hinges on the definition of the Institute of Internal Auditors. Therefore, the need to put in place an effective internal audit system becomes imperative in Nigeria public universities.

However, if the internal audit department is to be effective in providing assurance, risk management and consulting function, it needs to be sufficiently resourced in terms of budgets and people, well organised so that it has well-developed work practices, competent staff who receive high-quality training, independent and objective (ACCA 2008). According to Cohen and Sayag (2010), the effectiveness of internal auditing is determined by the fit between the audit and some set of universal standards extrapolated from the characteristics of internal audit (IA). These universal standards are interdependence, professional proficiency, the scope of work, the performance of the audit and management of the internal audit department (Alzeban & Gwilliam, 2014).

2.1.1.2 Determinants of Internal Audit Effectiveness

Different factors that determine the effectiveness of an internal audit department had been discussed in prior research studies such as Arena (2013); Alzeban and Gwilliam (2014); Chevers,

et al. (2016); Kabuye, et al. (2017); Drogalas, et al. (2017); Goerge, et al. (2017); Asiedu and Deffor (2017); Purnamasari, et al. (2018); Abdullah and Mustapha (2020); amongst others. These factors include internal auditor's independence, internal auditor's competence, size of internal audit department; management support, organizational status, the relationship between the internal auditors and staff of the organisations, compliance to policies, control of operations, amongst others from the perspective of other sectors of the economy outside university settings. This study examined management support, relationship between internal and external auditor and competence of internal auditor as factors determining internal audit effectiveness in public universities in south-west Nigeria.

2.1.1.1 Internal Audit and Management Support

It is important to note that the management determines the nature and scope of operations and the status of an internal auditor and differs among organisations. This is normally based on the needs and perceptions of different managements (Millichamp 2002). The management is responsible for laying the ground for a strong internal audit unit so as to be effective toward enhancing financial management. Therefore, Alzeban and Gwilliam (2014) opined that the absence of management support will result in the ineffectiveness of the internal audit unit. On the other hand, Badara (2012) posited that internal auditing should not be restricted to the financial transaction only. The internal auditors can equally assist management in ensuring that adequate financial and management controls are implemented and operate effectively by identifying the weaknesses in such system and making recommendations toward their improvement, which include among others; with internal audit, errors are more likely to be discovered in their early stages. Badara (2012) further argued that the existence of assets are verified to protect the assets of the organisation, errors in the account can be corrected early once detected by the internal auditor.

In the light of the above, Internal Auditor's function should be independent in order to review properly internal control system regardless of their establishment by the management of an organisation. They examine, evaluate and report on the adequacy of information as a contribution to the proper economic, efficient and effective use of resources (Millichamp, 2002). Alzeban and Gwilliam (2014) claimed that the accounting officer is responsible for the establishment of an effective internal audit unit for the appraisal of the internal control system and ensure that the internal audit is functioning properly. Therefore, it becomes germane that the management of universities put in place an effective internal audit department that would complement the achievement of the university goals.

2.2.1.2 Competency of Internal Auditors

Arens, Elder and Beasley (2012) opined that competence is the knowledge and skills necessary to accomplish tasks that define an individual's job. Therefore, competence refers to the ability of an individual to perform a job or task properly with the application of a set of defined knowledge, skills, and behavior. For an internal audit to function effectively, it becomes an important element in helping an organization achieve its objectives. MacRae and Van Gils (2014) argued that organizations with internal audit activities are better able to identify business risks and systems inefficiency, take appropriate corrective action and ultimately support continuous improvement. The competency of a department actually depends on the charter and mission as well as the education and skills of the staff. Skillful staff with sufficient resources enhances the competence of an internal audit department and its effectiveness.

In addition, the qualification of the internal audit staff, especially those that are certified internal auditors, is also important. Certified and experienced staff members can have very good knowledge of the operations and systems of the institutions, thus helping to reduce risk and to set

proper audit scope of activities. The role of an internal auditor in an institution is to ensure that the organization adheres to all financial, personnel, lending, data processing, and other administrative policies and procedures as well as economy, efficiency and effectiveness with which resources are used (see IIA, 2002). We hypothesize that qualification based on certification and years in an enterprise, being a proxy for experience and skill, will affect internal audit function positively. Experienced and certified auditors will understand the system better, apply the necessary technology and database analysis, including all administrative policies and procedures, and will therefore save the institution a lot of man-hours and resources. Hence, the desire to have competent internal auditors in the university system can not be overemphasized.

Moreover, competence means having the intelligence, education and training to be able to add value to the organization through performance (Chambers, 2014). The internal audit competence comes from long and intensive preparation, including instruction in the underlying knowledge, skills and methods, as well as scholarly principles, and the commitment to continued study (IIA, 2013a, 2013b). Gramling and Myers (2009) revealed that certification of internal auditors is perceived to be a signal of the significant level of competence and important for advancement within internal audit departments. The attributes that organizations should look for when hiring internal auditors pertain to education, experience and professional certification, in addition to computer and communication skills (Harrington, 2004). Seol and Sarkis (2005) posited that the fundamental skills internal auditors should possess include technical, analytical, appreciative, interpersonal and organizational skills. Thus, the level of experience and skills among internal auditors demonstrates the quality of their audits (Gramling & Hermanson, 2009; Zain, Subramaniam & Stewart, 2006).

Consequently, Suwaidan and Qasim, (2010) suggested that objectivity, competence and work performance of internal auditors are very important factors affecting their reliance decisions. As a result, identification and prioritization of the internal auditor's core competencies are important in improving their essential capabilities to enhance adherence to the laid down policies of the management in an organization (Chambers & Odar, 2015). Further studies revealed that modern internal audit has been constructed along three E's of effectiveness, efficiency and economy (Ridley, 2008), in the light of the above, internal audit effectiveness can be understood in the context of internal audit competence.

2.2.1.3 Relationship between Internal and External Auditors

For a good relationship to exist between internal auditors and external auditors, the independence of the internal audit department is critical (Asiedu & Deffor 2017). More often than not, external auditors rely on the work of internal auditors to do their job. The scope of work and materiality of systems and structures depend on the efficiency and effectiveness of the internal audit function. Besides this, a poorly deployed internal auditing system can lead to increased, non-value-added costs, many hours of wasted resources and eventual breakdown of the assurance system of the institution. According to the literature, internal auditing, when effectively implemented, becomes an important gauge as to the level of risk in the company or institution (Strauss, 2009). The researcher further asserts that the primary function of the internal audit department through the continuous monitoring of the institution's quality assurance system is a good feedback to external auditors in their task and scope of audit engagement. Where the work of internal auditors can be relied upon in the preparation of financial statements and their underlying records the university management would be rest assured that the internal control mechanism put in place is functioning.

2.2 Theoretical Review

Different theories had been propounded and discussed by various scholars on various topics of interest. These theories include agency theory; resource-based theory and stewardship theory. The researcher discussed the originators of these theories, the philosophy behind the theories and their relevance to this study.

2.2.1 Agency Theory

The first scholars to propose, explicitly, that a theory of agency be created, and to actually begin its creation, were Stephen Ross and Barry Mitnick in 1972, independently and roughly concurrently. The researchers introduced the study of agency in terms of problems of compensation contracting; agency was seen, in essence, as an incentives problem. They introduced the now common insight that institutions form around agency, and evolve to deal with agency, in response to the essential imperfection of agency relationships. That is, behavior never occurs as it is preferred by the principal because it does not pay to make it perfect. But society creates institutions that attend to these imperfections, managing or buffering them, adapting to them, or becoming chronically distorted by them. Thus, to fully understand agency, we need both streams to see the incentives as well as the institutional structures (Ross & Mitnick, 1972).

Fama (1980) proposed that separation of security ownership and control can be explained as an efficient form of economic organization within the "set of contracts" perspective. He set aside the typical presumption that a corporation has owners in any meaningful sense and the concept of the entrepreneur for the purposes of the large modern corporation. Instead, the two functions attributed to the entrepreneur, management and risk bearing, were treated as naturally separate factors within the set of contracts called a firm. He proposed that the firm is disciplined by competition from other firms, which forces the evolution of devices for efficiently monitoring the performance of

the entire team and of its individual members. In addition, individual participants in the firm and in particular its managers, face both the discipline and opportunities provided by the markets for their services, both within and outside of the firm.

Agency theory is primarily concerned with the conflicting interest that often arises between principal and agent. According to Jensen and Meckling (1976), the agency problem is usually caused as a result of the problem of separation of power in some organisations. They further emphasised that agency problem often occurs as a result of relationship between owners and managers, which is very similar to relationship between principals and agents. They further postulated that this relationship is such that the owners contract the managers to perform the controlling task of the firm and then both of them seek to maximise their own utility and self-interest. This is because the managers knowing that he has effective control of the firm's resources often develop various way to ensure that they can consume a lot of benefit from the firm at the expense of the owner, while the owners, often develop various means of supervising and monitoring the agent to reduce all his ulterior motive about the business. Jensen and Meckling (1976), have defined this cost caused as a result of the divergence between owner and managers as agency cost, which consist of monitoring cost incurred by the principal, bonding incurred by the agents and the residual loss.

According to the agency theory, a company consists of a nexus of contracts between the owner of economic resources (the principals) and manager (the agents) who are charged with using and controlling those resources'' (Jensen & Meckling, 1976). Agency theory posits that agents have more information than principal, and that such information asymmetry adversely affects the principals' ability to monitor whether or not their interests are being properly served by agents.

Furthermore, an assumption of agency theory is that, principal and agents act rationally and use contracting to maximize their own wealth. A consequence of this assumption may be the "moral" hazard problem (Jensen & Meckling, 1976) where to maximize their own wealth; agents may face the dilemma of acting in the interests of their principal. Since principals do not have access to all available information at the time a decision is being made by an agent, they are unable to determine whether their interest is given priority (called adverse selection) and the moral hazard problem, principal and agents engage in contracting to achieve pareto-optimality, including the establishment of monitoring processes such as internal auditing (Adams, 1994). Specifically, internal auditing is considered a bonding cost borne by agents to satisfy the principals for accountability (Sherer 1983). Despite the importance of the agency theory, one of the major arguments against the **assumption** of the theory is that if there is no agent and owners' relationship, the assumption of this theory cannot stand.

2.2.2 Resource-Based Theory

This theory was propounded by Wernerfelt (1984). This theory posits how the success of an organization can be explained by its ability to obtain and keep useful internal and external resources and in that way be efficient (Pfeffer & Salancik, 2003). According to Pfeffer and Salancik (2003), efficiency in a company is its ability to create positive results and act in a way so that external actors are satisfied. An organization's performance depends on useful and important resources and this affects their behavior (Nienhüser, 2008). The resource-based theory explained behavior of organizations, which includes organizational structures, actions and decision-making (Nienhüser, 2008). The organization is characterized as an open system that is affected by events in the external environment (Hillman *et al.*, 2009). The external environment is constantly

changing and that makes it uncertain (Pfeffer & Salancik, 2003), and the company need to take action to reduce these uncertainties when they appear (Nienhüser, 2008). All companies depend on the external environment and other organizations, and the relationship to these affects the behavior of the company (Hillman *et al.*, 2009).

Besides this, another researcher that recognized the importance of resources in organizations was Newbert (2007) and argued that organization growth is due to how resources are employed to achieve the organizational objective as well as reduce any form of irregularities. An organization consists of different kinds of productive resources and these resources can contribute to organization's competitive position if they are used correctly and made available within the organization (Newbert, 2007). The performance of a company is driven directly by its products and services, but indirectly by its resources and organizations can perform above normal by identifying and acquiring vital resources (Newbert, 2007). Barney (1991) developed the ideas from Penrose and built his work on two main assumptions about organization resources and it was that resources are immobile and heterogeneously distributed among organizations. This means that resources can have different values depending on the characteristic of the organization. In addition, Barney (1991) argued that an organization cannot enjoy sustained competitive advantage when strategic resources are evenly distributed and completely mobile.

According to the resource-based theory, there are critical resources and those who control these have power and power influence behavior (Nienhüser, 2008). One of the main goals for an organization is to reduce others' power over them and to increase their own power over others (Hillman *et al.*, 2009). The organization aims to reduce environmental uncertainty by controlling vital resources and in this way create competitive advantages on the market (Hillman *et al.*, 2009). Two of the most important factors for companies to create advantages against competitors are to

take important strategic decisions and to have a good internal control (Bennet & Robson, 2003). A strategic decision could be to invest in the human capital or in other vital resources in the company to increase the competitiveness and be more successful. To maximize organizational value, companies have to optimally mix people, technology and physical assets in order to reach their strategic goals (Pantzalis & Park, 2009).

In the light of the above, the role of human capital in resource-based theory has been one of the most important factors for researchers that try to explain why some companies outperform others (Crook *et al.*, 2011). Organizations that have access to valuable resources, like human capital, that is difficult to duplicate or copy will outperform their competitors and that helps explain performance differences (Crook *et al.*, 2011). The main goal for most organizations is to have sustained competitive advantage and gain above-normal rates of return, which is the return in excess of an organization's resource over opportunity costs (Mahoney & Pandian, 1992). An organization's unique characteristic of technical know-how and managerial capabilities is two of the most important factors that differentiate organizations (Mahoney & Pandian, 1992). These factors are sources to sustained competitive advantage and maximized performance (Mahoney & Pandian, 1992).

2.2.3 Stewardship Theory

Stewardship theory was propounded by Donaldson and Davis (1991). This theory was found significant in explaining internal audit in the research framework. This theory is mainly concerned with the identification of situations in which the interests of the principal and the steward are aligned. Stewardship theory argues that managers are trustworthy and therefore, will not engage

in an act that will cause misappropriation of corporate resources. The theory also provided that managers are good stewards of their corporation and they work diligently in orders to attain high levels of corporate objectives (Donaldson & Davis, 1991). Therefore, a good steward would aim towards the achievement of corporate objectives without prejudice to stakeholders' interest.

In addition, Ebimobowei and Binaebi (2013) revealed that auditing exists as a result of the stewardship concept and stewardship accounting. Stewardship theory serves as accountability mechanisms for ensuring good monitoring, good audit and reporting in order to assists in objective achievement (Cribb, 2006). As a result of this, Ebimobowei and Binaebi (2013) recommended that auditing enhances appropriate stewardship reporting. Therefore, using this kind of theory within the context of the university will lead to the attainment of their respective objective because the stewardship theory has concerned that might lead to organizational success. Stewardship theorists put down a model of governance which promotes the ability of employees to contribute toward strategic objectives achievement (Hernandez, 2012).

Moreover, stewardship theory is concerned with the matters that organizations leaders have the obligation of ensuring better achievement of such organizational activities than any other selfishness (Donaldson & Davis, 1991). Therefore, if the organization did well, its staff will also do well thereby investing their energy in their respective organizations' success (Davis, Allen & Hayes, 2010). The same is applicable to the university context, if the university council and management did well, therefore, the staff of the organization would as well do well toward the achievement of objectives of the university.

Consequently, stewardship theory has been considered as another alternative to agency theory; due to the fact that the theory is more comprehensive and more realistic in viewing management actions and motivations than agency theory. This is because agency theory is based on the

economic models whereas stewardship theory is based upon the psychological literature and sociological as well (Albrecht, Albrecht & Albrecht, 2004).

As a result of this, stewardship theory may be valuable, particularly for the purpose of understanding the interactions that exist among important employees, their customers, and the organization (Hernandez, 2012). Therefore, a governance strategy that is based on stewardship principles is 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 have stewardship planning can easily direct their resources toward maximizing firm performance (Davis *et al.*, 2010). Likewise, the top management within the university system 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 settings are the stewardship responsibility of the governing bodies of such government organizations (International Federation of Accountants, 2001).

According to stewardship theory, there are certain factors either situational or psychological that make individuals become either agents or stewards (Pastoriza & Arino, 2008). In addition, the stewardship theory equally deals with the situations upon which staff of an organization can act as stewards in order to achieve the organizational objectives than exploiting their selfishness (Donaldson & Davis, 1991; Davis *et al.*, 2010). Therefore, employees that are stewards give more concentration to the achievement of organizational objective as a whole than their selfishness, because they are committed to their work toward the objective achievement of such organization. Stewardship theory agreed that individuals within an organization considered themselves as part of the management and therefore, according to the stewardship theory, managers can join their

efforts in order to achieve the organizational goals. This is because the stewardship nature of governance enables the compliance of certain policies within the organizations (Albrecht *et al.*, 2004). Stewardship theory accepts that managers are stewards whose responsibility is to align their behaviors with the objectives of their principals.

Against this background, management within various levels is responsible for providing all the necessities that may influence the effectiveness of the internal audit. Stewardship governance is being associated with different structural factors such as leadership systems, managerial practices, routines and procedures (Hernandez, 2012). Employees can become a steward through developing self-regulatory instrument in order to ensure the achievement of customer demand especially by way of good quality service delivery. Therefore, stewardship ensures the alignment of interests and employees additional efforts from self-actualization in order to benefit the customer (Schepers *et al.*, 2012).

2.3 Empirical Review

This sub-section concentrates on the review of past empirical studies on the determinants of internal audit effectiveness in south-west public universities. These studies were grouped into studies from developed economies, developing economies and studies conducted on Nigerian universities in order to bring out the gap clearly.

2.3.1 Studies on Developed Countries

Paul, Colin and Robyn (2008) investigated the value of internal audit in fraud prevention in the United States. Chi-square statistical technique was employed in analyzing the data collected through the questionnaire administered to the sampled respondents. The result of the study

revealed that outsourcing of internal audit function is less likely to reduce fraud. The study also found that internal audit function assists in fraud detection and prevention.

Arena (2013) examined the effect of internal audit on fraud prevention in Italian universities. The data for the study were obtained through the questionnaire administered to thirty-five (35) employees of public universities in Italy and were analyzed using descriptive analysis. The result of the study hierarchical position of the internal audit unit, skills and competence of internal audit and types of activities performed by internal auditors have a significant negative effect on fraud practices in Italian universities. This indicates that an effective internal audit would reduce the level of fraud perpetration in the public universities in Italy.

Besides this, Quick and Henrizi (2018) revealed experimental evidence on external auditor reliance on the internal audit. The study employed ordinary least square regression analysis to analyze the data collected through the questionnaire administered to one hundred and seventy-five (175) external auditors in Germany. The results indicate the main effects for each factor and a two-way interaction between the effectiveness of the internal control system and the quality of corporate governance. Specifically, a strong internal control system can compensate for weaknesses in corporate governance with respect to the confidence of external auditors in the internal audit function (IAF).

The study also found that type of audit procedure influences the willingness of auditors to rely on the IAF, and the inherent risk of the examined transaction strengthens the negative impact of client business risk on the reliance decision. Moreover, past experiences of external auditors with an IAF have a significant impact on their reliance decision. Overall, the findings suggest that organizations can foster internal-external auditor coordination by enhancing corporate governance effectiveness and strengthening the internal control system.

Eulerich, Kremin and Wood (2019) investigated the factors that influence the perceived use of the internal audit function's work by executive management and audit committee. The data for the study were obtained through the online questionnaire distributed to the national institute of internal auditors in Austria, Germany, and Switzerland which consisted of eighty-six (86) open- and closed-response questions. The questionnaire was available to 2450 CAEs from November to December 2013 then again from November to December 2017. In total, eight hundred and sixty-five (865) CAEs gave partial or full responses to the survey; of these, six hundred and eighty-three (683) participants answered all the questions used for our analysis and thus formed our sample. The results of the two logistic regression analysis revealed that the existence of various factors that are relevant either to both groups (e.g. strategic project reports and IAF quality) or to only one (e.g. only audit committees are interested in risk management reports while only executive management teams are interested in internal control reports), depending on whether the IAF focuses on assurance or consulting work.

Türetken, Jethefer and Ozkan (2020) investigate internal audit effectiveness on operationalization and influencing factors. The study conducted a systematic literature review in order to identify relevant publications and collect and synthesize evidence on the operationalization of internal audit effectiveness and the factors that potentially influence the effectiveness of internal audit. A thorough analysis of the relevant studies resulted in a comprehensive list of indicators used for the operationalization of audit effectiveness and a list of potentially influencing factors. The results of the systematic review are synthesized into a framework.

2.3.2 Studies on Developing Countries

Zaini and Dennis (2011) posited on the effect of commitment to independence on role ambiguity and role conflict on fraud prevention among listed companies in Malaysia. Multiple regression analysis was employed in analyzing the data collected through the questionnaire administered to fifty-six (56) respondents used as a sample. The result of the study revealed that both role ambiguity and role conflict are negatively related to commitment and independence of internal audit effectiveness.

Kitojo (2014) investigated the impact of internal audit efficiency on the effectiveness of financial management in public sector organizations using the local government authorities in Shinyanga region as a case study. The data for the study were obtained through the questionnaire administered to fifty-eight respondents chosen from six (6) districts councils of Shinyanga. The result of the multiple regression analysis indicates that poor leadership in the finance department, low salary, political interference, inconsistency of government policies, lack of experience and poor relationship among internal audit staff give room for more perpetration of fraud in the public sector organizations of Shinyanga.

Motubatse (2014) revealed the perceived role of internal auditing in financial fraud and detection in South-African public sector national departments. Using a meta-analysis approach, the study found that unauthorized expenditure, fruitless and wasteful resources exacerbate the level of fraud practice among the public sector in South Africa. Petrascu and Tieanu (2014) assessed the role of internal audit in fraud prevention and detection in Romania. Using a desktop review, the study revealed that internal audit functions reduce fraudulent activities in Romania.

Alzeban and Gwilliam (2014) investigated the factors affecting the internal audit effectiveness using a survey of the public sector in Saudi Arabia. Ordinary least square (OLS) regression analysis

was employed in analyzing the data obtained through the questionnaire administered to sixty-seven (67) respondents. The study revealed that competence, size of the internal audit department, the relationship between the internal auditor and external auditor, independence of internal auditor and management support have a significant negative effect on fraud in Saudi Arabia.

Joseph, Albert and Byaruhanga (2015) investigated the effect of internal audit on fraud detection and prevention in District treasuries of Kakamega County of Kenya. The data obtained from the questionnaire administered to one hundred and four (104) respondents were analyzed using multiple regression analysis. The study found that there was a statistically significant relationship between control environment and risk management on fraud prevention and detection.

Mathenge (2016) examined the effect of internal audit on fraud detection in insurance companies in Kenya. The data collected through the questionnaire administered to staff of forty-one (41) insurance companies in Kenya were analyzed using multiple regression analysis technique. The result of the study revealed that compliance to audit policies, risk management, control of operations, financial reporting and fraud proactive audits have a significant negative effect on the level of fraud practices in Kenya. This indicates that the internal audit functions reduce the level of fraud among insurance companies in Kenya.

Besides this, Chevers, Lawrence, Laidlaw and Nicholson (2016) studied the effectiveness of internal audit in Jamaican commercial banks. The study employed ordinary least square regression analysis to analyze the data obtained through one hundred and fifty (150) questionnaires that were distributed to employees in three commercial banks in Jamaica. The study found that the quality of audit investigation, organizational independence, professional proficiencies and management support have a significant impact on internal audit effectiveness.

Moreover, Fitriyah (2016) investigated the role of internal audit unit in detecting and preventing fraud at public universities in West Java, Indonesia. The data for the study were collected through face to face interview and questionnaires administered to the sample respondents and were analyzed using descriptive statistical technique. The result of the study revealed that review of actual performance, physical control, task distribution and fraud investigation have a significant relationship with fraud activities.

Faiz, Nabella and Rudi (2016) studied the effectiveness of internal audit on fraud prevention and detection methods at universities in Indonesia. Frequency and simple percentages were employed in analyzing the data sourced through the questionnaire administered to the sampled respondents. The study found that the effective ways of detecting and preventing fraud are through effective operational audit, internal control and the review and improvement of internal audit staff.

Furthermore, George, Michail, Evgenia and Angehki (2017) investigated the effect of internal audit effectiveness, auditor responsibility and training on fraud detection in Greece. The data for the study were collected through the questionnaire administered to one hundred and fifteen (115) respondents chosen as sample and were analyzed using ordinary least square regression analysis (OLS). The study showed that internal audit effectiveness, internal auditor's responsibility and persistent training of internal auditor significantly increased the possibility of detecting fraud.

In addition, Drogalas et al (2017) investigated the effect of internal audit effectiveness, auditor responsibility and training in fraud detection in Macedonia. The data for the study were obtained through the questionnaire administered to two hundred and seven (207) respondents. The result of the ordinary least square (OLS) regression analysis indicates that internal audit effectiveness, internal audit training and internal auditor's responsibility have a positive and significant effect on fraud detection.

Asiedu and Deffor (2017) looked into the ways of fighting corruption by means of effective internal audit function with evidence from the Ghanaian public sector. Data were sourced through the questionnaire administered to three hundred (300) workers from public sectors in Ghana and were analyzed using partial least square-structural equation modeling (PLS-SEM) regression method. The study found that the size of internal audit department and internal auditor independence have a significant negative effect on fraud but found competency and the relationship between internal and external auditors to be insignificant.

In the light of the above, Ismajli, Aliu, Sahiti and Lutolli (2017) investigated the role of internal audit as a starting point for the discovery of irregularities in the financial statement of public companies in Kosovo. Correlation and regression analyses were employed in analyzing the data obtained through the questionnaire administered to the sampled respondents. The result of the study revealed that internal audit functions reduce irregularities.

Moreso, Mweti (2017) studied the effect of internal audit functions on the level of financial fraud among commercial banks in Kenya. The data for the study was collected through the questionnaire administered to thirty-one (31) respondents from the sample banks and was analyzed using multiple regression analysis. The results of the study revealed that fraud proactive audit, compliance to policies, control of operations and financial reporting techniques have significant negative effect on fraud practice.

Moreover, Kabuye, Nkundabanyanga, Opiso and Nakabuye (2017) investigated the effect of internal audit organizational status, size of internal audit, competencies, activities and fraud management in the financial services sector in Kampala, Uganda. Questionnaires were administered to seventy (70) respondents from fifty-four (54) services firms to obtain data for the study and were analyzed using partial least square (PLS) regression analysis. The study found that

internal audit organizational status, internal audit department size and internal audit competence have a significant negative effect on fraud. The result of the study also revealed that internal audit activities have an insignificant relationship with fraud.

In the light of the above, Ziniyel, Otoo and Andzie (2018) examined the effect of internal audit practices on the financial management of universities in Ghana. Binary logistics regression analysis was employed in analyzing the data collected through questionnaires administered to the sampled respondents. The result of the study revealed a significant negative relationship between competence and independence on fraud management of universities in Ghana.

Shohihah, Djamhuri and Purwanti (2018) studied and analyzed the influence of auditor competence, independence of internal audit organization, relationship between internal and external auditors, management support to the effectiveness of internal audit, and the effect of internal audit effectiveness on the corruption in Inspectorate General of Ministry of Religious Affairs. Data were sourced through the questionnaire administered to one hundred and fifty-two (152) respondents. The analysis method employed PLS (Partial Least Square) by utilizing SmartPLS 2.0 software. The result of the research shows that there is a positive influence of the auditor competence, independence of internal audit organization, relationship between the internal and external auditors and management support to the effectiveness of internal audit. The study proves that the effectiveness of internal audit tends to decrease corruption. In addition, this study also supports the Inspectorate General of Ministry of Religious Affairs as part of the governance of Kemenag organizations that can help fight corruption.

In addition, Purnamasari, Arezona, Lestira and Mey (2018) investigated the effect of internal auditor on four main pillars in fighting fraud in Indonesia. Multiple regression analysis was employed in analyzing the data collected through the questionnaire administered to thirty (30)

respondents from public organization. The study found that internal audit has a significant negative effect on all the four pillars of fraud, that is, fraud prevention, fraud detection, fraud investigation and follow-up legal action.

Mohd Yusof, Ismail and Chye (2019) examined the effect of independence of internal audit unit on the internal audit capability of Malaysian public sector organizations. Questionnaires were sent to the head of internal auditors which list obtained from the National Audit Department. A total of seventy (70) responses was received and analyzed for descriptive statistics and relationship testing using SPSS and SmartPLS. It was found that 47 organizations were only at capability level 1 Initial while the remaining 23 organizations were at least scored capability level 2 Infrastructure. This shows that the Malaysian public sector must strengthen its internal audit unit, especially in people management to develop a higher capability level. It was also found that independence of the internal audit unit has a positive and significant influence on the overall internal audit capability level. Lack of independence results in a lack of quality internal audit unit thus gives an impact on the capability level. The instruments used in this study could provide the organization with a road map to enhance its capability.

Abdullah and Mustapha (2020) investigated the factors that impact internal audit effectiveness (IAE) in Kurdistan Iraq. Data were collected from 15 directors of Colleges and 15 internal audit managers at the University of Duhok. The relationship between IAE and three principle factors has been examined using multiple regression analysis. Findings reflect that management support for perceived effectiveness of internal audit from both directors of colleges and internal auditor's perspective is significant. Management support is related to engaging experienced and trained staff, providing sufficient resources. However, the study found an insignificant relationship between the independence of the internal audit and internal audit effectiveness.

Mensah, Ngwenya & Pelsler (2020) investigated the impact of antecedents of internal audit function effectiveness at a private university in Ghana. A structured questionnaire was administered to 250 respondents, systematic randomly selected from a target population of 480. Data collected were analysed descriptively and inferentially. The inferential statistics employed were correlation and multiple regression. The results revealed that independence of the internal audit staff, competence and support and commitment of management have impacts on the effectiveness of internal auditing. Furthermore, the antecedents have a positive the correlation with internal audit effectiveness and collectively account for 68.6% of the effectiveness of internal audit function.

Abrar (2020) conducted an empirical study on the assessment of internal audit effectiveness in Ethiopian shipping and logistics service enterprise. The data obtained through the questionnaire administered to forty-five (45) respondents from the sampled company were analyzed using descriptive statistic (simple percentage, mean and standard deviation). The results of the descriptive statistical analysis indicated that internal audit effectiveness in Ethiopian shipping and logistics service enterprise was found good. The Internal Audit effectiveness of the organization will be augmented when there was the existence of quality of audit work, competency of internal auditors, more supports from the management, have independence of internal auditor and the commitment of the management should be improved as it is evaluated and needed to be above the average range.

2.3.3 Studies on Nigeria

Unegbu and Kida (2011) assessed the role of internal audit as an instrument of improving public sector management with evidence from public sector in Kano state, Nigeria. The data collected through the questionnaire administered to five hundred and ten (510) respondents were analyzed

using chi-square statistical technique. The result of the study revealed that an effective internal audit function would hinder fraudulent practices in Kano state public sector organizations.

Abu-Saeed and Kabir (2012) examined the role of internal audit in fraud prevention in government-owned hospitals in the Nigerian setting. Chi-square statistical technique was employed in analyzing the data obtained through the questionnaire administered to sixty-six (66) respondents. The study found that lack of basic knowledge, cooperation between audit staff and other departments increase the level of fraud practices in Nigerian hospitals.

Muazu (2012) examined the role of internal auditors in ensuring effective financial control in local government area using Alkaleri local government of Bauchi state as a case study. The data collected through the questionnaire administered to the sampled respondents were analyzed using simple percentage and frequency. The result of the study indicated that lack of internal auditor's independence, understaffing of audit department, weak internal control and lack of internal auditors' professional knowledge contribute to a high level of fraudulent practices in the sampled local government of Bauchi state.

Olowolaju (2013) assessed the effect of internal audit on the prevention of frauds, errors and irregularities in Nigerian corporate organizations. Simple percentage and frequency were employed in analyzing the data collected through the questionnaire administered to one hundred and fifty (150) organizations in South-West Nigeria. The study found that the existence of an internal audit department in a business organization is a good tool for control of errors, fraud and other forms of irregularities.

Abiola and Oyewole (2013) evaluated the effect of internal audit on fraud detection in selected commercial banks in Nigeria. Ordinary least square (OLS) regression analysis was employed in analyzing the data collected through questionnaires administered to the sampled respondents. The

result of the study revealed that internal audit has a significant negative effect on fraud practices in Nigerian banks.

Onoja and Haruna (2015) investigated the impact of internal audit techniques and fraud prevention in selected local government councils in Bauchi state. The data for the study were collected through a questionnaire administered to internal auditors in thirteen (13) local governments and were analyzed using chi-square and Pearson's product moment correlation. The result of the study indicates that auditors in local government are not independent and this led to an increase in fraud practice. The study also found that internal auditor analytical skills reduce fraudulent practices among local government councils in Bauchi state.

Soronke (2016) assessed the effect of internal audit on fraud control in public institutions in Nigeria using a survey of local government councils in Osun state. Chi-square statistical analysis was employed in analyzing the data obtained through the questionnaire and interview conducted on internal auditors of thirty (30) local governments in Osun state. The result showed that internal auditors lack operational independence which subsequently leads to an increase in the practice of fraudulent activities in local government councils in Osun state.

Oyewumi, Ayoib and Oluwatoyin (2017) studied the relationship between internal auditors' independence and objectivity on fraud prevention. Using a meta-analysis technique, the study found that internal auditors usually face the challenges of victimization and ridicule from the management in the course of discharging their duties, hence preventing them from putting the required effort in combating fraud.

Olaoye and Dada (2017) examined the roles of internal auditors in fraud detection and prevention in Nigerian deposit money banks in south west Nigeria. Analysis of Variance and multiple regression analysis were employed to analyzing the data collected through the questionnaire

administered to the internal audit staff of the sample respondents. The study found that risk assessment, system audit and financial report verification have a significant and negative effect on fraud practices in the selected banks.

Bello, Che Ahmad and Mohamad Yusof (2018) investigated internal audit quality dimensions and organizational performance in Nigerian federal universities: the role of top management support. The study employed a sample of internal audit staff at the senior level from 40 federally owned universities in Nigeria where 400 samples have been drawn for the analysis. A questionnaire instrument was used in generating the data having subjected to Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) aimed at establishing underlying dimensions. The data was collected and analysed using inferential statistics and the findings revealed that interaction on internal audit competence, internal audit independence, and internal audit size, with top management support, significantly and positively influence the organizational performance of Nigerian federal universities. The findings provide ground for new policy initiatives to strengthen internal audit and enriched the literature by providing the moderating effect of top management support as instrumental to organizational performance.

Taiwo (2019) conducted an empirical study on an assessment of the determinants of internal audit efficiency in the Nigerian public sector. The data used were collected from primary sources of which two ministries were selected using a purposive sampling technique because they had almost the same structural and operational characteristics in their internal audit structures. Data gathered were proportionately stratified through random sampling technique, descriptive statistic and Z-test was used for data analysis. The result of the analysis Z-test shows that internal audit efficiency has a significant effect on the performance of the Nigerian public sector. The results from the respondents to the determinants in the area of public performance on the incidence of irregularities

by the appropriate authorities, flaw of audit model and accounting system, inadequacy of the internal control system and none implementations of routine audit report has contributed to the challenges of internal audit efficiency.

Ibironke (2019) investigated the effect of internal audit quality on corruption in the Nigerian public sector. Data for the research were obtained through the administration of questionnaires to one hundred and sixty (160) internal auditors in public sector organization in Lagos State. The results of the multiple regression analysis show that the independent variable; internal audit quality (which is proxy by the Internal Auditors' independence, competency and integrity) has a significant effect on corruption and can help in checkmating corruption in the public sector. The study concluded that internal audit quality must be pursued by ensuring that the internal auditor carries out his responsibility independently through the enactment of laws that protect the job of the internal auditor.

2.4 Summary and Gaps Identified in the Literature

This chapter provides a review of conceptual, theoretical and empirical issues relating to the research area. The literature review indicated that there are some gaps still left unfilled. Therefore, this study provides further evidence to fill the gaps identified in the literature. Conceptually, the extant literature reviewed on the effect of internal audit effectiveness in Nigeria shows that there are scanty literatures (see Abu-Saeed & Kabir, 2012; Muazu, 2012; Olowolaju, 2013, Onoja & Haruna, 2015; Sorunke, 2016; Olaoye & Dada, 2017) on the effect of management support, the relationship between internal auditor and external auditor as well as the competency of the audit department on internal audit effectiveness. Most of the literature reviewed in Nigeria focused on internal auditor independence, size of internal audit department and internal auditor's qualification

on fraud prevention (see Abiola & Oyewole, 2013; Onoja & Haruna 2015; Sorunke 2016; Olaoye & Dada 2017; Bello, et al., 2018; Taiwo, 2019; and Ibronke, 2019).

Institutionally, the extant literature reviewed also indicates that there are scanty studies (see Unegbu & Kida, 2011; Abu-Saeed & Kabir, 2012; Muazu, 2012; Sorunke, 2016) in the Nigerian context that have been conducted on the determinants of internal audit effectiveness on the Nigerian universities. Methodologically, the literature reviewed in Nigeria had largely used ordinary least square of multiple regression analysis, Analysis of Variance (ANOVA) and simple percentages in testing the hypotheses of their various studies (Muazu, 2012; Olowolaju, 2013; Onoja & Haruna, 2015). This study used Partial Least Square-Structural Equation Modeling (PLS-SEM) to test the hypotheses as well as answering the research questions raised in chapter one. This instrument is robust in such a way that it takes care of the shortcomings of the earlier mentioned instruments.

Theoretically, most of the studies reviewed in Nigeria employed the assumptions of both agency theory and stewardship theory as theoretical framework underpinning their studies. This study is different as it employed the assumption of resourced based theory to link the relationship between the dependent and independent variables of the study together.

2.5 Theoretical Framework

The study was guided by the assumptions of resourced based theory. The theory assumes that a university that possesses both internal and external resources would not only achieve its objective but also create a competitive edge over its competitors. The resource-based theory posits that human resources (internal audit staff) cannot work in isolation without having adequate materials and support of both management and staff which would ensure effective delivery of its mandate.

More so, the theory also assumed that university that has non-imitable and rare internal audit staff would be able to work effectively by reducing fraudulent activities as well as provide a framework that would ensure effective risk management. In addition, the resource-based theory presumed that a university system that can combine its internal and external resources together (internal and external auditor) has a high tendency of attaining its objective. This is because the two resources are monitoring agent which if work together can assist the university system to reduce any form of irregularities by staff and management of the university through established internal controls system as well as improving the existing framework on risk management and ensure effective corporate governance.

2.6 Conceptual Framework

Independent Variables

Dependent variable

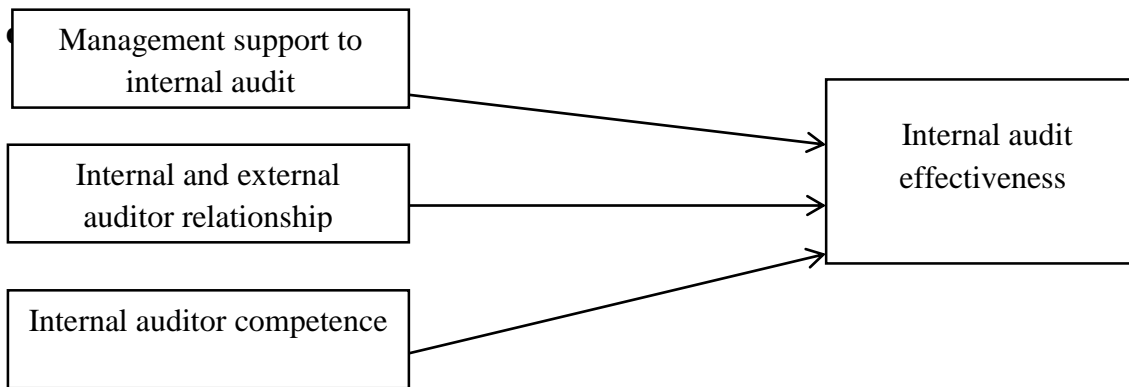


Figure 2.1

Source: Author’s Conceptualisation (2021)

The figure 2.1 shows the conceptual framework of the study. This depicts the diagrammatic representation of the relationship between dependent and the independent variables used in the study. The dependent variable is internal audit effectiveness in the public universities in south-west Nigeria while the independent variables are the determinants of internal audit effectiveness

proxy with management support to the internal audit department, relationship between internal auditor and external auditor and internal auditor's competence on internal audit effectiveness in public universities in south-west Nigeria.

The researcher expects that the factors considered in the study as independent variables would lead to effective internal audit service. This assumption was based on the empirical result of the previous empirical studies such as Alzeban and Gwilliam (2014); Chevers, et al. (2016); Asiedu and Deffor (2017); Shohihah, et al. (2018); Quick and Henrizi (2018); Abdullah and Mustapha (2020); Mensah, et al. (2020); and Abrar (2020) as they reported in their various studies that management support, relationship between internal auditor and external auditor and competence of internal audit staff lead to effective internal audit service delivery.

The researcher's expectation was also based on the assumption of the resource-based theory which serves as the underpinning theory of this study. The theory assumes that university that possesses both internal and external resources would not only achieve its objective but also create a competitive edge over its competitors. The resource-based theory posits that human resources (internal audit staff) cannot work in isolation without having adequate materials and support of both management and staff which would ensure effective delivery of its mandate. More so, the theory also assumed that a university that has non-imitable and rare internal audit staff and the ability to combine its internal and external resources (internal and external auditor) together would be able to work effectively by reducing fraudulent activities as well as provide a framework that would ensure effective risk management. Therefore, premised on the position of the resource-based theory, the researcher is of the opinion that the theory would complement internal audit effectiveness in public universities in south-west Nigeria.

CHAPTER THREE

METHODOLOGY

This chapter analyses the procedures employed in collecting data for the study and the technique used in analyzing the data collected. It also discusses the population of the study, the sample size and the sampling technique, the definition and measurement of variables and the model specification of the study.

3.1 Research Design

This study adopts a survey research design. A survey research design involves a situation whereby the researcher selects a sample of respondents from a population and administered a standardized questionnaire to those respondents. The rationale for choosing this design is that the researcher selects a sample of respondents from a larger population in order to make inferences on the subject matter through administering of standardized questionnaire to the sampled respondents. This was done in order to evaluate the effect of the independent variables on the dependent variable as well as making inference on the factors determining internal audit effectiveness in public universities in south-west Nigeria.

3.2 Population of the Study

The aim of this study is to examine the determinants of internal audit effectiveness in public universities in the south-west Nigeria. The target population is all senior staff of the internal audit department in public universities in the south-west Nigeria who are performing audit functions. In other words, the Director of Internal Audit, Deputy Director of Audit, Chief Internal Auditor, Principal Internal Auditor and other senior staff in the audit departments of the public universities in the south-west formed the population of this study (Appendix III). As at 31st September, 2019,

there were fifteen public universities in the south-west Nigeria which comprise eight (8) state-owned universities and seven (7) federal universities (National Universities Commission, 2019). The list of the universities is shown in appendix II. The population covered by this study is one hundred and thirty (130) as obtained from the staff directory in the official website of the institutions visited and through phone contacts.

3.3 Sample Size and Sampling Technique

The study employed census sampling technique due to the small population size of the study. This was based on the assumption of Glen (1992) which states that a researcher can use the whole population size if the population size falls within the range of fifty (50) and two hundred (200). Hence, the sample size for this study is one hundred and thirty (130) respondents.

3.4 Data Collection Method

The main data used in this study were collected through the questionnaire administered to the internal auditors in selected public universities in south-west Nigeria. The questionnaire was divided into two (2) sections, A and B. Section A deals with the demographic data of the respondents while section B centres on the research objectives stated in Chapter One. The bio-data section deals with the information about the respondents while section B deals with the statement formulated on the research objectives and hypotheses formulated in Chapter One.

The questionnaire was prepared in Likert-scale format which comprises strongly agree, agree, disagree and strongly disagree. The responses were arranged in an ordinal scale measures and were assigned number ranging from 4, 3, 2 and 1 respectively. The items in the questionnaire used in

this study were adapted from previous literatures (such as Alzeban and Gwilliam 2014, Kabuye, *et al.*, 2017; Asiedu & Deffor, 2017; and Drogalas, *et al.*, 2017).

3.5 Validity and Reliability Test of the Instrument

Prior to hypotheses testing, validity and reliability tests were carried out in order to ensure that the research instrument actually reflects the purpose of the construct used in this study. This reliability test was done with the use of Cronbach-Alpha test. Cronbach-alpha measures the reliability or internal consistency of data set. It tests to determine if multiple questions inform of Likert scale surveys are reliable. The rule of thumb for Cronbach alpha is that a score of more than 0.7 is usually accepted (Pallant, 2003).

The questionnaire was subjected to a validity test through a content validity test method. Content validity test method measures the extent to which a measure covers the construct of interest of a researcher. The questionnaire was given to the supervisor as well as other academicians in the field of accounting and auditing profession for their perusals as well as contributing to the quality of the questionnaire. The questions included in the questionnaire were of closed type, and in particular on a five-point Likert scale. The respondents were requested to state their degree of agreement or disagreement on a number of questions regarding the subject of the determinants of internal audit effectiveness in public universities in the south west Nigeria.

3.6 Measurement of Variables

Two variables were employed in this study which are dependent and independent variables. The dependent variable for this study is internal audit effectiveness while the independent variables are determinants of internal audit effectiveness

Table 3.1 Measurement of Variables

Variables	Construct	Definition and Measurement	Sources
Dependent variable			
Internal audit effectiveness	IAE	Reduction in financial irregularities; decrease in resources wastage of the university; continuous assessment of the consistency of results with established objectives and goals; implementation of internal audit recommendations; evaluation and improvement of risk management; evaluation of internal control systems and recommendations for improvement; creates added values to the organization; economical, effective and efficient use of organization resource; and provides information on problems in the activity or control systems in the organization.	Alzeban & Gwilliam, 2014; Joseph, <i>et al.</i> , 2015; Fitriyah, 2016; Ismajli, <i>et al.</i> 2017; Purnamasari, <i>et al.</i> , 2018; Abrar, 2020.
Independent Variables			
Management support	MGTS	Measured with feedback from the management; implementation of recommendations; availability of adequate resources; consulting internal audit for advice; perceiving internal audit as value adding activities	Alzeban & Gwilliam, 2014; Asiedu & Deffor, 2017.
Internal and external auditors relationship	IAEAR	Measured with friendly and supportive action by external auditor to internal auditor; opportunity to explain his concerns; mutual interaction between internal and external auditor; external auditor attitude towards internal auditor.	Alzeban & Gwilliam, 2014; Faiz, <i>et al.</i> , 2016; Asiedu & Deffor, 2017;
Internal auditor competence	IAC	Measured with sufficient skills (professional and academic qualification) of staff and their skill matches the scope of office internal operations; use of modern technology; procedures and evidence collections; training and retraining of internal audit staff.	Arena 2013; Alzeban & Gwilliam, 2014; Asiedu & Deffor, 2017; Kabuye, <i>et al.</i> , 2017; Ziniyel <i>et al.</i> , 2018

Source: Author's Survey (2021)

3.7 Model Specification

This study examined the determinants of internal audit effectiveness in public universities in the south west Nigeria. The model of Abrar (2020) was adapted and modified. The model of Abrar (2020) was stated as:

$$IAE = b_0 + b_1IND + b_2MS + b_3IAQ + e_i$$

Where: IAE = indicates to internal audit effectiveness; IND = independence of the internal audit department; MS = management support for internal audit; and IAQ = internal audit quality.

The model of this study is a modification of Abrar (2020) model. The model of this study is written as:

$$IAE_i = f(\text{Determinants of internal audit effectiveness})$$

$$IAE_i = \beta_0 + \beta_1MGTS_i + \beta_2IAEAR_i + \beta_3COMP_i + \varepsilon_i$$

Where:

IAE = Internal Audit Effectiveness;

MGTS = Management Support;

IAEAR = Internal and External Auditors Relationship;

COMP = Internal Auditor's Competency

b_0 = Constant Coefficient

$b_1 - b_3$ = Parameters of the estimate

ε_i = Error term (5% significance level)

a-priori expectation

The *a-priori* expectation of this study is that b_1, b_2 and $b_3 > 0$. The *a priori* expectation of the study is that management support, internal and external auditor relationship and internal auditor's competence would improve the effectiveness of internal audit in the South-west public universities

system. This expectation was based on the assumption of the resource based theory adopted for this study as well as the empirical results of the previous studies as discussed earlier.

3.8 Data Analysis Techniques

The data collected were analyzed with the use of both descriptive and inferential statistics. The descriptive statistics employed include the frequency table and simple percentages in order to show the snapshot of the dependent and the independent variables. The inferential statistics employed in testing the hypotheses is Partial Least Square – Structural Equation Modeling (PLS-SEM). PLS-SEM is a statistical tool that is capable of running the relationship between two or more variables simultaneously (Hair, Hult, Ringle & Sarstedt, 2016). Since this study has four variables the application of PLS-SEM is justifiable because it can run the relationship between the four variables concurrently. It is a robust tool that can test the validity and reliability of indicators of each variable and determine their fit in the measurement model. Also, PLS-SEM can accurately test the relationship between the four variables under consideration in the structural model.

CHAPTER FOUR

PRESENTATION OF RESULTS AND DISCUSSION OF FINDINGS

This chapter presents the results of analysis for the quantitative data that were collected via the questionnaire designed for this study. Determinants of internal audit effectiveness: evidence from public universities in south west, Nigeria. The responses from the survey show the respondents' demographic profile, measures of validity and reliability of the measurement model, model specification, path analyses of the structural model through which the results of the hypotheses tested were shown and discussed. The descriptive analysis was carried out using SPSS Version 22 and testing for the relationship test was carried out using Partial Least Square-Structural Equation Modeling (PLS-SEM).

4.1 Analysis of the Data Sampled

This section discussed the analysis of the response rate as well as the discussion of the respondents' opinion on the variables used in the study.

4.1.1 Response Rate of Questionnaires Distributed

In this study, 130 questionnaires were distributed to the respondents. An aggregate of 121 copies were returned which represent 93% response rate. However, out of these 121 questionnaires were returned, a total of 116 were usable for data analysis. The remaining 5 questionnaires were excluded due to the issue of unproductive response and outliers.

Table 4.1 *Response Rate of the Questionnaires*

Responses	Frequency	Rate (%)
No. of questionnaire administered	130	100
Returned questionnaires	121	93
Returned and usable questionnaires	116	89
Returned and excluded questionnaires	5	0.04
Questionnaires not returned	9	0.06

Source: Research Survey (2021)

4.2 Descriptive Statistics of the Respondents Profile

The result in Table 4.1 shows the analysis of the demographic profile of the respondents based on the questionnaire returned. The results in Table 4.1 revealed that seven (7) respondents fall within the age bracket below 30 years representing 6.0%; nine (9) respondents fall within the age bracket of 31-35 years representing 7.8%; nineteen (19) respondents fall within the age bracket of 36-40 years representing 16.4%; Thirty (35) respondents are within the age bracket of 41-45 years representing 30.2%, and forty-six (46) respondents are within the age bracket of 41 years and above representing 39.6% of the total respondents.

The results in Table 4.1 also revealed that there are seventy-four (74) respondents were male representing 63.8% while forty-two (42) respondents were female which constitute 36.2% of the total respondents. In addition, the result in table 4.2.1 revealed that eight (8) respondents were yet to marry (single) as at the time of the study representing 6.9%; one hundred and five (105) of the respondents were married representing 90.5% while three (3) of the respondents were widow representing 2.6%. Furthermore, the results in table 4.2.1 revealed that fourteen (14) respondents have working experience between 5-10 years representing 12.1%; thirty-four (34) have working experience between 11-15 years which constitute 29.3% of the respondents; forty-six (46) respondents have working experience between 16-20 years which constitute 39.6%; while twenty-two (22) respondents have working experience of 21 years and above representing 19.0% of the total respondents. This implies that the responses given would be reliable since most of the respondents have been working in the internal audit department for more than ten (10) years.

In addition, the results in Table 4.1 also revealed that seventy-six (76) respondents have HND/B.Sc. which represent 65.5% of the total respondents, twenty-eight (28) respondents have M.Sc. / MBA which constitute 24.2% of the total respondents, and twelve (12) respondents have

other qualification which is Ph.D. as extracted from the returned questionnaires representing 10.3% of the total respondents. The results in the Table also revealed that seventy-one (71) respondents have ICAN professional certification representing 61.2%, five (5) respondents have ACCA which represent 4.3% of the total respondents, and thirty-five (35) respondents have ANAN certification representing 30.2% of the total respondents while other five (5) respondents have other professional qualifications representing 4.3% of the total respondents. This indicates that most of the respondents have professional certificates that can assist them in discharging their duties to the university thereby assist in improving the effectiveness of internal audit department of their various universities.

Table 4.2: Summary of the Respondents' Demographics

Items	Frequency	Percentage%
Age		
30 years and below	7	6.0%
31-35 years	9	7.8%
36-40 years	19	16.4%
41-45 years	35	30.2%
46 and above	46	39.6%
Gender		
Male	74	63.8%
Female	42	36.2%
Marital Status		
Single	8	6.9%
Married	105	90.5%
Widow	3	2.6%
Work Experience		
5-10 years	14	12.1%

11-15 years	34	29.3%
16-20 years	46	39.6%
21 years and above	22	19.0%
Educational Qualification		
HND/B.Sc.	76	65.5%
M.Sc.	28	24.2%
Others Specify	12	10.3%
Professional Qualification		
ICAN	71	61.2%
ACCA	5	4.3%
ANAN	35	30.2%
Others (specify)	5	4.3%

Source: Research Survey (2021)

4.3 Descriptive Statistics of the Indicators of the Variables

4.3.1 Descriptive Statistics of all Measurement Items for Management Support

The management support of the respondents towards internal audit effectiveness is presented in Table 4.3. The results showed that the mean score concerning the respondents’ management support ranges from 4.01 to 1.91 together with the standard deviation from 1.284 to 1.055. This implies that the majority of the respondents strongly agreed to the statement raised on management support in term of MS1 to MS7 except on taking to recommendations of internal audit. This suggested that the respondents had a strong agreement on management support towards the internal audit effectiveness. Generally, the overall mean scores and standard deviation of 4.001 and 0.966 respectively on all the items on management support indicate that the respondents strongly agreed on the management support except in the areas of taking to internal audit recommendations.

Table 4.3 *Management Support*

S/N	Items	Min	Max	Mean	S.Dev
1	Senior management supports internal audit to perform its duties and responsibilities	1	5	3.86	1.203
2	Internal audit receives adequate feedback from management on audit finding	1	5	3.93	1.241
3	The management uses the recommendations, criticisms and information provided by internal auditor for decision making	1	5	1.91	1.230
4	Management provides internal audit with adequate material and human resources	1	5	3.91	1.284
5	Management supports IA by providing training in order to improve their skill and update with the relevant knowledge.	1	5	4.01	1.055
6	All auditing functions that were approved in the auditing plans are performed completely.	1	5	3.96	1.067
7	The management's decision making process is strongly affected by the reports and findings of the internal audit department	1	5	3.92	1.274

Source: Research Survey (2021)

4.3.2 Descriptive Statistics of all Measurement Items for Internal and External Auditors Relationship.

The internal and external auditor's relationship of the respondents towards determinants of internal audit effectiveness is presented in Table 4.4. The results showed that the mean score concerning the respondents' internal and external auditors relationship ranges from 4.16 to 4.07 together with the standard deviation from 1.115 to 1.080. Majority of the respondents strongly agreed that

internal and external auditors in term of IEA1 to IEA6 have an influence on internal audit effectiveness. This suggested that the respondents had a strong agreement on the internal and external auditors towards the internal audit effectiveness. Generally, the overall mean scores and standard deviation of 4.001 and 0.9660 respectively on all the items on internal and external auditors indicate that the respondents strongly agreed on the relationship between internal and external auditors.

Table 4.4 *Internal and External Auditors Relationship*

S/N	Items	Min	Max	Mean	S.Dev
1	External auditors are friendly and supportive to internal auditors in my University	1	5	4.09	1.093
2	External auditors have good attitude towards internal auditors	1	5	4.09	1.080
3	External auditors are willing to give internal audits an opportunity to explain their concerns	1	5	4.07	1.100
4	External and internal auditors consult on the timing of work in which they have mutual interest	1	5	4.08	1.089
5	External auditor relies on the reports of the internal auditor when carrying out the external audit assignment	1	5	4.16	1.106
6	External auditors discuss their plans with internal audit	1	5	4.07	1.115

Source: Research Survey (2021)

4.3.3 Descriptive Statistics of all Measurement Items for Internal Auditor Competency

The mean scores on the internal auditor's competency showed that most of the respondents agreed to the statements raised on internal auditor's competency as it was shown that each of the statements has mean score between 4.09 and 3.82 as shown in Table 4.5. This suggested that most of the respondents agreed on the statements raised on internal auditor competency towards the determinants of internal audit effectiveness. Generally, the overall mean scores and standard deviation of 3.930 and 0.806 respectively on all the items on competency indicate that the respondents strongly agreed on the internal auditor competency in the university.

Table 4.5 *Internal Audit Competency*

S/N	Items	Min	Max	Mean	S.Dev
1	The internal audit unit has sufficient skilled personnel	1	5	4.06	1.135
2	The internal audit staff number and their skill match the scope of offices internal operations	1	5	4.01	1.156
3	The audit procedures and evidence collections are completed on time, since enough and skilled internal auditors are available	1	5	4.09	1.070
4	It is possible to audit and review each activity on time, and cover the planned scope of auditing activities	1	5	4.01	1.187
5	Internal audit is carried out in accordance with international standards for professional performance of internal audit	1	5	3.84	1.295
6	The internal audit staff are able to use modern technology (use computerized data tools and specific internal audit software)	1	5	3.82	1.172

Source: Research Survey (2021)

4.3.4 Descriptive Statistics of all Measurement Items for Internal Audit Effectiveness

The results in Table 4.6 showed the response rate on the statements raised on the dependent variable (internal audit effectiveness) given by the respondents. The mean scores of the response rate on the internal audit effectiveness range between 4.02 and 3.87. The dependent variable was measured by eight (8) measurement questions. The views of the respondents on the internal audit effectiveness were expressed through items IAE1 to IAE8 and the results of the descriptive analysis of the items are documented in Table 4.6. Specifically, the results revealed that the perception of the respondents about the internal audit effectiveness among public universities in south west Nigeria as convened in item IAE1 to IAE8 was strong, which is indicated in the strong mean scores of 4.02 to 3.87 together with the standard deviation of 1.169 to 1.035 respectively. However, in a comparison of the items, more respondents (62.1%) expressed strong agreement with item IAE1 (i.e. increase in internal audit effectiveness among public universities in south west) than in the other seven items. Overall mean score and standard deviation of 3.962 and 0.782 respectively on all the items on internal audit effectiveness indicate that most of the respondents agreed on the statements raised on internal audit effectiveness.

Table 4.6 *Internal Audit Effectiveness*

S/N	Items	Min	Max	Mean	S.Dev
1	The internal audit creates added values to the organization.	1	5	3.93	1.169
2	Internal audit improves the adequacy and effectiveness of the organization's systems of internal account and operating controls.	1	5	3.98	1.164
3	Internal auditing provides information on problems in the activity or control systems in the organization	1	5	3.92	1.105
4	Internal audit ensures the economical, effective and efficient use of organization resource.	1	5	3.87	1.035
5	Internal audit reviews operations and programmes to ascertain whether results are consistent with established objectives and goals.	1	5	4.02	1.141
6	Internal audit reviews the compliance with policies, plans, procedures and regulations.	1	5	3.97	1.129
7	Internal audit reviews the means of safeguarding assets and evaluates the internal control system.	1	5	4.02	1.119
8	Internal audit makes recommendations for improving the internal control system	1	5	3.99	1.127

Source: Research Survey (2021)

Table 4.7 Summary of the Mean and Standard Deviation of the Variables

Variables	N	Min	Max	Mean	Std. Dev.
Management Support	116	1	5	4.092	.817
Internal and external Auditor	116	1	5	4.001	.966
Competency	116	1	5	3.930	.806
Internal Audit Effectiveness	116	1	5	3.962	.782

Source: Research Survey (2021)

4.4 Preliminary Analysis of Data

This section presents the results of the diagnostic tests concerning the distribution of the scores of the study's variable and their relationship. The preliminary test is conducted to ensure non-violation of the assumptions (non-existence multicollinearity of independent variables and normality and linearity of the distribution of scores on the variables) of the multiple regressions techniques used for the testing of hypotheses on the research questions raised in chapter one.

4.4.1 Normality Test

The study of Haenlein and Henseler (2009) has the traditional assumption that PLS-SEM provides accurate model estimations in situations with extremely non-normal. However, this assumption may turn to be false. Hair, *et al.* (2012) suggested that researchers should perform a normality test on the data. Highly skewed or kurtosis data can inflate the bootstrapped standard error estimates which in turn underestimate the statistical significance of the path coefficients (Ringle, Sarstedt, & Straub, 2012).

In contrary to this background, this study employed a graphical method to check for the normality of data collected (Tabachnick & Fidell, 2007). Field (2009) suggested that in a large sample of 180 or more, it is more essential to check the shape of the distribution graphically rather than looking at the value of the skewness and kurtosis statistics. Field (2009) also said that a large sample decreases the standard errors, which in turn inflate the value of the skewness and kurtosis statistics. Hence, this justified the reason for using a graphical method of normality test rather than the statistical methods.

Table 4.8 *Normality*

Constructs	N	Mean	SD	Skewness	Kurtosis
Management Support (MS)	116	3.58	.563	-.112	.216
Internal & External Auditor Relationship (IEA)	116	3.02	.660	-.044	-.116
Inter. Auditor Compet. (IAC)	116	3.64	.690	-.224	-.214
Internal Audit Effectiveness (IAE)	116	3.13	.573	-.274	-.224

Source: Research Survey (2021)

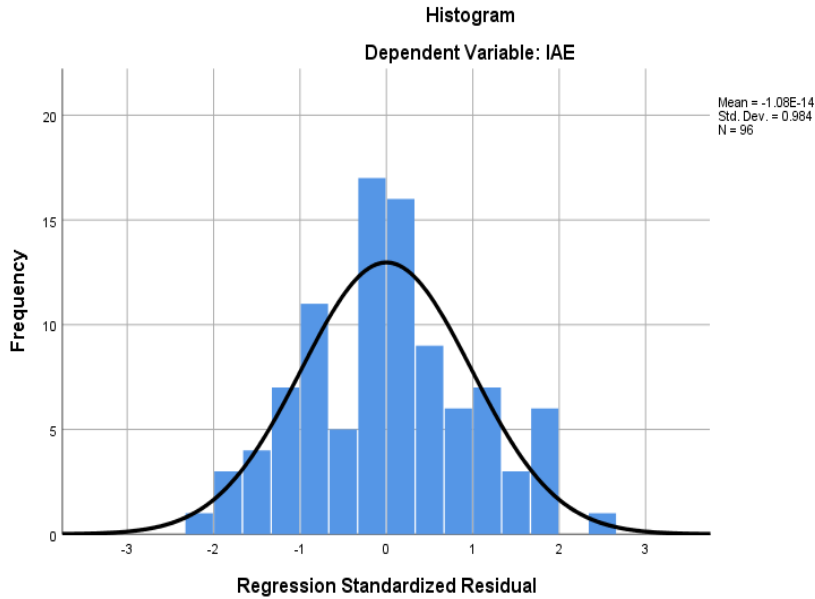


Figure 4.1: Histogram and Normal Probability Plots for internal audit effectiveness

4.4.2 Linearity Test

The study used residual scatter plot, the residual ought to scatter around 0 and most of the scores should concentrate at 0 points Ringim (2012). Figure 4.2 presents the scatter plot between MS, IAEAR, IAC and internal audit effectiveness. The assumption was not violated as the plot shows that residual scores converged at the center along the zero point, hence evidencing that the linearity assumption was satisfied.

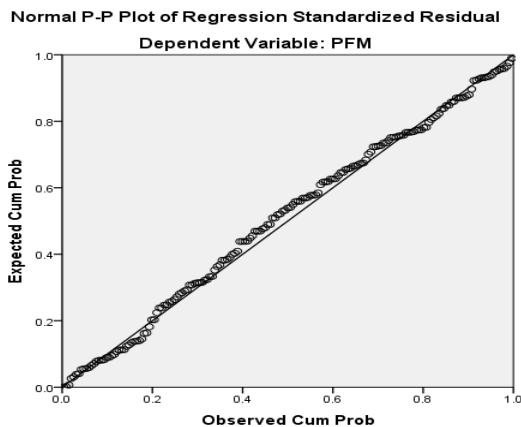


Figure 4.2: Scatter plots between MS, IAEAR, IAC and internal audit effectiveness

4.4.3 Multicollinearity Test

To detect multicollinearity, two methods were embraced in the present study (Peng & Lai, 2012). Firstly, the correlation matrix of the exogenous latent constructs was examined. According to Hair, *et al.*(2010), a correlation coefficient of 0.90 and above indicates multicollinearity between exogenous latent constructs. Table 4.9 indicates the correlation matrix of all exogenous latent constructs.

Table 4.9 Pearson Correlation Analysis of the Variables

Discriminant Validity (Fornel-Lacker Criterion)

Constructs	CM	IAE	IEA	MS
Competency	0.730			
Internal Audit Effectiveness	0.630	0.781		
Internal and External auditor	0.609	0.763	0.646	
Management Support	0.536	0.744	0.670	0.764

Source: Research Survey (2021).

In order to detect the problem of multicollinearity that may not be evidence in the correlation matrix given above, further collinearity test was carried out by conducting tolerance and variance inflation factor (VIF) coefficients. As shown in Table 4.10, none of the tolerance and VIF coefficient is less than and above 1 respectively. In this situation, the highest tolerance and VIF value are 0.781 and 1.808 respectively. This shows that the independent variables were not highly correlated.

Table 4.10 Collinearity Test (VIF and Tolerance)

Variables	N	Tolerance	VIF
Management Support	96	.781	1.281
Internal & External Auditor Relation	96	.553	1.808
Internal Audit Effectiveness	96	.586	1.705
Internal Audit Competence	96	.645	1.357

Source: Author's Survey (2021)

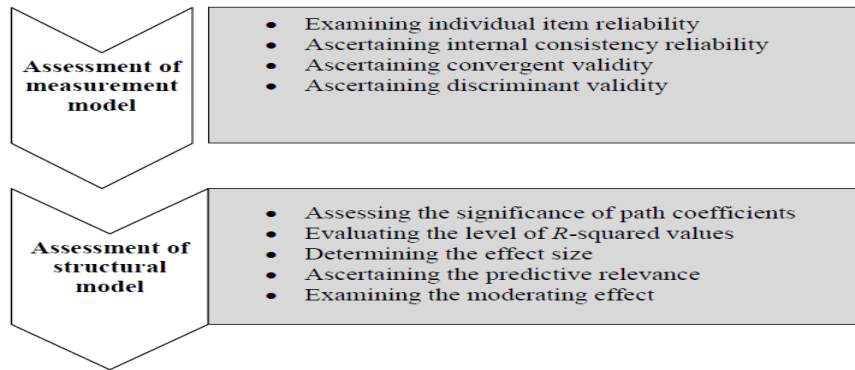
Table 4.10 indicates that multicollinearity did not exist among the exogenous latent constructs as all VIF values were more than 0.1 and tolerance values were not exceeded 0.10 as suggested by Tabachnick, *et al.*, (2007). Therefore, multicollinearity is not an issue in the present study.

4.5 Assessment of PLS-SEM Path Model Results

It is important to mention that a study conducted by Henseler and Sarstedt (2013) suggested that goodness-of-fit (GoF) index is not suitable for model validation (Hair *et al.*, 2014). For instance, using PLS path models with simulated data, the authors show that goodness-of-fit index is not suitable for model validation because it cannot separate valid models from invalid ones (Hair, Ringle, & Sarstedt, 2013). In the light of the recent development about the unsuitability of PLS path modeling in model validation, the present study adopted a two-step process to evaluate and report the results of PLS-SEM path, as suggested by Henseler, Ringle and Sinkovics (2009). This

two-step process adopted in the present study comprises the assessment of a measurement model and the assessment of a structural model.

Partial Least Square-Structural Equation Modeling (PLS-SEM)



4.5.1 Assessment of Measurement Model

An assessment of a measurement model involves determining individual item reliability, internal consistency reliability, content, convergent, and discriminant validity (Hair, *et al.*, 2014).

The first attempt that this study undertook was to ensure that the measurement model is valid and reliable. This was done following the argument of Esposito Vinzi *et al.*, (2010) who pointed out that the rules of thumb are for an outer loading to be considered, it should be 0.05 and above and for the average variance extracted, it should be greater than 0.5 also. Based on this, all the items with outer loading below 0.05 were deleted beginning with the one with the lowest value, a technique which according to Hair, *et al.*, (2012) is very suitable because it improves data quality. The two approaches are also discussed as measurement model and structural model (Hair, *et al.*, 2012). Since there are several relationship effects involved in this study, the use of partial least squares was suggested by Chin, *et al.*, (2003) and Smart PLS3 was employed in this study to be able to assess the reliability and validity as well as testing the structural model.

An examination of the loadings and cross-loadings to be able to spot any problem with the items which also serves as a pre-requisite for ascertaining the convergent validity was undertaken as shown in Table 4.11

Figure 4.11 Result for Reflective Measurement Model Algorithm for internal audit effectiveness.

Table 4.11 Cross Loading for the Latent Variables

Constructs	Items	CM	IAE	IEA	MS
Competency (CM)	CM1	0.847	0.553	0.579	0.574
	CM2	0.912	0.590	0.575	0.763
	CM3	0.858	0.563	0.572	0.795
	CM4	0.781	0.453	0.442	0.759
	CM5	0.387	0.119	0.110	0.229
	CM6	0.393	0.249	0.225	0.305
Internal Audit Effectiveness	IAE2	0.210	0.182	0.129	0.195
	IAE3	0.347	0.650	0.506	0.736
	IAE7	0.589	0.951	0.964	0.631
	IAE8	0.586	0.916	0.937	0.627
	IAE9	0.610	0.922	0.935	0.643
Internal & External Audit	IEA4	0.589	0.951	0.964	0.631
	IEA5	0.586	0.916	0.937	0.627
	IEA6	0.610	0.922	0.935	0.643
Management Support (MS)	MS1	0.858	0.563	0.572	0.795

MS2	0.781	0.453	0.442	0.759
MS7	0.347	0.650	0.506	0.736

Source: Research Survey (2021)

This result in Table 4.11 shows the loading and cross-loading factors of the variables in order to support the diagram above. This implies that some items of the questionnaire that did not meet the criterion of 0.5 were dropped during hypotheses testing.

4.5.3 Internal Consistency Reliability

Internal consistency reliability refers to the extent to which all items on a particular scale are measuring the same concept (Sun *et al.* 2007). Cronbach's alpha coefficient and composite reliability coefficient are the most commonly used estimators of the internal consistency reliability of an instrument in organizational research (e.g. Peterson & Kim, 2013). In this study, composite reliability coefficient was chosen to ascertain the internal consistency reliability of measures adapted.

Two main reasons justified the use of composite reliability coefficient. Firstly, composite reliability coefficient provides a much less biased estimate of reliability than Cronbach's alpha coefficient because the latter assumes all items contribute equally to its construct without considering the actual contribution of individual loadings (Gotz, Liehr-Gobbers, & Krafft, 2010).

Table 4.12 Summary of the Measurement Model (Composite Reliability and Average Variance Extracted)

Constructs	Items	Loadings	CR	AVE	R2
Competency (CM)	CM1	0.847	0.862	0.533	
	CM2	0.912			
	CM3	0.858			
	CM4	0.781			
	CM5	0.387			
	CM6	0.393			
Internal Audit Effectiveness	IAE2	0.182	0.917	0.610	0.989
	IAE3	0.650			
	IAE7	0.951			
	IAE8	0.916			
	IAE9	0.922			
Internal & External Auditor	IEA4	0.964	0.962	0.894	
	IEA5	0.937			
	IEA6	0.935			
Management Support (MS)	MS1	0.795	0.808	0.583	
	MS2	0.759			
	MS7	0.736			

Source: Research Survey (2021)

4.5.5 Discriminant Validity

Discriminant validity was determined following Chin's (1998) criterion by comparing the indicator loadings with other reflective indicators in the cross-loadings table. First, as a rule of thumb for evaluating discriminant validity, Fornell and Larcker (1981) suggested the use of AVE with a score of 0.50 or more. To achieve adequate discriminant validity, Fornell and Larcker (1981) further suggest that the square root of the AVE should be greater than the correlations among latent constructs.

As indicated in Table 4.12, the values of the average variances extracted range between 0.505 and 0.708 suggesting acceptable values. In Table 4.12, the correlations among the latent constructs were compared with the square root of the average variances extracted (values in bold face). The Table also showed that the square root of the average variances extracted were all greater than the correlations among latent constructs, suggesting adequate discriminant validity (Fornell & Larcker, 1981).

Table 4.13 Discriminant Validity (Fornell-Larcker Criterion)

Discriminant Validity (Fornel-Lacker Criterion)

Constructs	CM	IAE	IEA	MS
Inter. Auditor Competency	0.730			
Internal Audit Effectiveness	0.630	0.781		
Internal and External Auditor Relationship	0.629	0.983	0.946	
Management Support	0.836	0.744	0.670	0.764

Source: Research Survey (2021)

Furthermore, discriminant validity can be ascertained comparing the indicator loadings with cross-loadings (Chin, 1998). To achieve adequate discriminant validity, Chin (1998) suggested that all the indicator loadings should be higher than the cross-loadings. All indicator loadings were greater than the cross-loadings, suggesting adequate discriminant validity for further analysis.

4.5.6 Assessment of Significance of the Structural Model

The present study assessed the structural model and also applied the standard bootstrapping procedure with a number of 5000 bootstrap samples and 179 cases to assess the significance of the path coefficients (Hair *et al.*, 2014). The t-values in this study were calculated using a 5000 re-sampling iterations in repetitive bootstrapping. The justification for the selection of 5000 samples is because it ensures that every model parameter has empirical sampling distribution and the standard deviation of the distribution will serve as proxy of the parameter's empirical standard error (Hair *et al.* 2012).

Therefore, Figure 4.2 and Table 4.12 show the estimates for the full structural model.

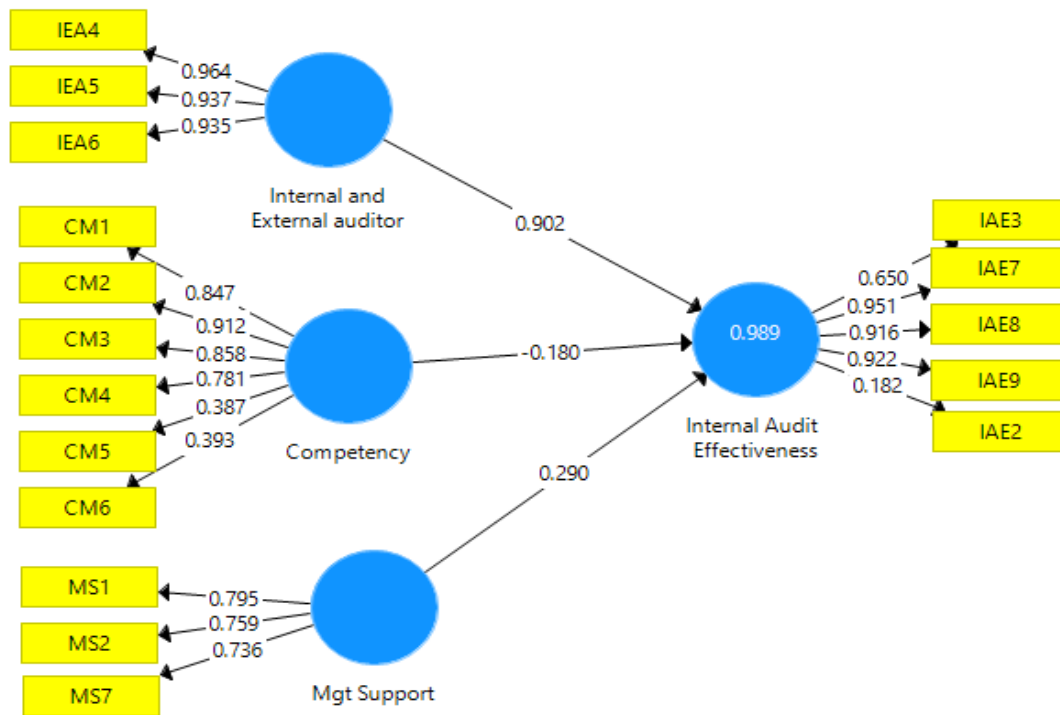


Figure 4.3 Assessment of Significance of the Structural Model

4.6 Re-statement and Testing of Hypotheses

The result in Table 4.13 depicts the regression results in order to test the hypotheses raised as well as answer the objectives stated in chapter one. The acceptance or rejection of the study was based on p-value at 5% level of significance while the direction of the relationship between the dependent and independent variables were determined with the use of t-value.

Table 4.14 Results of the Regression Analysis

Hypotheses	Beta	SE	T- Value	P Values
Mgt Support -> Internal Audit Effectiveness	0.290	0.032	9.063	0.000
Internal and External auditor Relationship -> Internal Audit Effectiveness	0.902	0.025	36.080	0.000
Internal Auditor Competency -> Internal Audit Effectiveness	0.180	0.029	6.207	0.000

Source: Research Survey (2021)

4.6.2 Re-statement and Test of Hypothesis One

H₀₁: Management support to internal audit department does not have significant effect on internal audit effectiveness in the public universities in south west Nigeria.

The results in Table 4.14 revealed that management support to audit department has a significant influence on internal audit effectiveness as shown by t-value of 9.063 with p-value of 0.000 at 5% level of significance. This leads to the rejection of the null hypothesis and acceptance of the alternative hypothesis. The result implies that audit department that receives adequate support from the management and receives adequate feedback from the university management on audit findings would feel the sense of belonging and would be willing to provide high quality internal audit service without having fear of being sack, thereby improving the quality of internal audit service delivery among the sampled public universities in the south-west Nigeria.

4.6.3 Re-statement and Test of Hypothesis Two

H₀₂: There is no significant effect on the relationship between internal and external auditors on internal audit effectiveness in public universities in the south west Nigeria.

The results in Table 4.14 showed that the relationship between internal auditors and external auditors has a significant effect on internal audit effectiveness in public universities in the south-west Nigeria as shown by t-value of 36.080 with p-value of 0.000 at 5% level of significance. The result leads to the acceptance of the alternative hypothesis which states that there is significant effect on the relationship between internal and external auditors on internal audit effectiveness in public universities in the south west Nigeria. The outcome indicates that when the external auditor provides relevant advise to internal audit department as well as give the internal auditors the opportunity to explain any discrepancies or explain their concerns during an audit engagement, it would not only improve the effectiveness of internal audit department but also assist in putting in place a better internal audit framework that would be able to prevent financial irregularities.

4.6.4 Re-statement and Test of Hypothesis Three

H₀₃: There is no significant effect of internal auditor's competence on internal audit effectiveness in public universities in the south west Nigeria

Furthermore, the results in Table 4.14 depicts that there is a significant relationship between internal auditor's competence and internal audit effectiveness as indicated by t-value of 6.207 with p-value of 0.000 at 5% significance level. Consequently, the result led to the rejection of the null hypothesis which states that there is no significant effect of internal auditor's competence on internal audit effectiveness in the public universities in Nigeria, hence acceptance of the alternative hypothesis. The implication of this result is that internal audit department that possesses sufficient

skilled staff with required qualification to deliver task effectively and as well has the ability to use modern technology for audit services delivery would be able to deal diligently with complex audit matters, reduce the possibility of perpetration financial irregularities, thereby leading to effective internal audit service in the public universities in the south-west Nigeria.

4.6.5 Assessment of Co-efficient Determination (Variance Explained in the Endogenous Latent Variables)

Co-efficient determination value (R^2) is another essential criterion for assessing the structural model in PLS-SEM (Hair, *et al.*, 2012). The R^2 value represents the proportion of variation in the dependent variable(s) that can be explained by one or more predictor variable. Although the acceptable level of R^2 value depends on the research context (Hair, *et al.*, 2010). Falk and Miller (1992) propose an R^2 value of 0.10 as a minimum acceptable level. Meanwhile, Chin (1998) suggests that the R^2 values of 0.67, 0.33 and 0.19 in PLS-SEM can be considered as substantial, moderate and weak respectively. Table 4.14 presents the R^2 values of the three endogenous latent variables.

Table 4.15 Variance Explain in the Endogenous Variables (*Coefficient Determination of R^2*)

Variables	R^2	Adj. R^2
Internal Audit Effectiveness	0.733	0.727

Source: Research Survey (2021)

As indicated in Table 4.15, the research model explains 73% of the total variance in internal audit effectiveness. This suggests that the three (3) sets of exogenous latent variables collectively explain 73% of the variance of the internal audit effectiveness.

4.6.6 Assessment of Effect Size (f^2)

Effect size indicates the relative effect of a particular exogenous latent variable on endogenous latent variable(s) by means of changes in the R^2 (Chin, 1998). It is calculated as the increase in R^2 of the latent variable to which the path is connected, relative to the latent variable's proportion of unexplained variance (Chin, 1998).

Table 4.16 Assessment of Effect Size (f^2)

Variables	Effect size (f^2)	Decision
Management support	0.47	Large
Internal & External Auditor Relationship	0.09	Small
Internal Auditor Competency	0.08	Small

Source: Research Survey (2021)

Table 4.16 indicated that the effect sizes for the management support, internal and external auditor relationship, competency and internal audit effectiveness were 0.47, 0.09 and 0.08 which result to the large, small, and small respectively. Similarly, on the basis of Cohen's (1988) guideline for interpretation of the effect size, the results suggest that the effects sizes of these three exogenous latent variables on internal audit effectiveness can be considered as large, small and small effect size respectively.

4.6.7 Assessment of Predictive Relevance

The present study applied Stone-Geisser test of predictive relevance of the research model using blindfolding procedures (Geisser, 1974; Stone, 1974). The Stone-Geisser test of predictive

relevance is usually used as a supplementary assessment of goodness-of-fit in PLS-SEM (Duarte & Raposo, 2010). Even though this study used blindfolding to ascertain the predictive relevance of the research model, blindfolding procedure is only applied to endogenous latent variables that have a reflective measurement model operationalization.

Specifically, a cross-validated redundancy measure (Q^2) was applied to assess the predictive relevance of the research model (Geisser, 1974). The Q^2 is a criterion to a measure how well a model predicts the data of omitted cases (Hair *et al.*, 2014). According to Henseler, *et al.*, (2009), a research model with Q^2 statistic (s) greater than zero is considered to have predictive relevance. In addition, a research model with higher positive Q^2 values suggests more predictive relevance. Table 4.17 presents the results of the Q^2 test.

Table 4.17 Predictive Relevant (Q^2)

Variables	SSO	SSE	$Q^2 = (1-SSE/SSO)$
Internal audit effectiveness	1,253,000	875,673	0.301

Source: Research Survey (2021)

Table 4.17 above showed the cross-validation redundancy measure Q^2 for all endogenous latent variables were above zero, suggesting predictive relevance of the model (Henseler *et al.*, 2009). This means that the model are well predicts the data of omitted cases.

4.7 Discussion of Findings

This section presents the discussion of key findings in relation to the research objectives of the study. The discussions are presented in the sequence of the research questions and objectives raised in chapter one of the study.

4.7.1 Management Support and Internal Audit Effectiveness in Public Universities in the South-West, Nigeria

The first research question is used to investigate the first objective of the study. This objective examined the effect of management support on internal audit effectiveness in public Universities in South-West Nigerian. Results of the PLS-SEM analysis ($t = 9.063$, $p\text{-value} < 0.000$) showed that there is a positive and significant relationship between management support and internal audit effectiveness in public universities in south-west Nigeria at 0.05% level of significance. The result indicates that an internal audit department that has the required support from the management through provision of adequate resources as well as receives constant feedback from management on audit findings would be able to use the feedback to strengthen the internal control framework and outline of the internal audit department, thereby reducing the level of financial recklessness in the south-west public universities.

The result is in line with the findings of Arena (2013) and Alzeban and Gwilliam (2014) who found that management that perceives internal audit as a value-adding activity and takes internal audit reports and findings into consideration in decision making for the organization would improve internal audit effectiveness. However, the finding is in contrast with the results of Abu-Saeed and Kabir (2012) and Oyewumi, *et al.* (2017) who reported in their studies that internal auditors usually face challenges of victimization and ridicule from the management as well as lack

of cooperation from the management and other departments, thereby reducing their level of commitment and consequently gives room for financial irregularities.

The result is in line with the assumption of the resource-based theory as it posits that the staff of the internal audit department reports to the management, the more support received from the management of the university, the more effective the internal audit department will be in terms of performance and service delivery. Result also concurs with the a priori expectation that management support would extremely increase the internal audit effectiveness in public universities in the south-west Nigeria.

4.7.2 Internal and External Auditor Relationship and Internal Audit Effectiveness in Public Universities in South-West, Nigeria

The second research question was used to achieve the second objective of the study which seeks to examine the effect of internal and external auditor relationship on internal audit effectiveness in public Universities in south-west Nigeria. The result from the PLS-SEM analysis revealed that the internal and external auditor relationship is positively and significantly related to internal audit effectiveness in public universities in south-west Nigeria at 5% level of significance. This implies that external auditor that review and relies on the reports of the internal audit department when carrying out the external audit assignment; consult the internal auditors on the timing of work in which they have a mutual interest; and explains their audit plan with the internal auditors, would not only assist in improving the internal controls system of the university but also lead to effective internal audit service delivery.

The result corroborates with the findings of Alzeban and Gwilliam (2014) and Asiedu and Deffor (2017) as they reported that a cordial relationship between the internal auditor and external auditor

by giving the internal auditor the opportunity of explaining their outcomes to the external auditor contradicts the findings of Nymwanza (2014), Ibrahim and AbdualHanan (2015) and Faiz, *et al.*, (2016), and where results showed internal and external auditor relationship has no significant positive relationship with internal audit effectiveness. The result conforms with the a-priori expectation because the researcher expects that when an external auditor does not act as a boss that scares the internal auditor while conducting his audit assignment would assist in strengthening the audit framework and internal controls system of the university through good rapport.

The outcome of this study confirms the assumption of the resource-based theory which suggests that both internal and external auditors are internal and external resources of the universities in which when work together, they will be able to provide effective internal controls systems that can prevent irregularities and improve the integrity of the financial statement.

4.7.3 Internal Auditor's Competence and Internal Audit Effectiveness in Public Universities in South-West, Nigeria.

Finally, the third research question is used to investigate the third objective of the study. This objective examined the impact of internal auditor's competence and internal audit effectiveness in public Universities in south-west Nigeria. Result from the PLS-SEM analysis ($t = 6.207$, $p\text{-value} < 0.000$) showed that there is a positive and significant relationship between internal auditor's competence and internal audit effectiveness in public Universities in South-West Nigeria at 5% level of significance. The implication of this outcome is that internal audit staff that possesses required accounting and auditing qualifications (such as ICAN/ANAN certificate); has the skills and capability of using modern technology to perform audit trail as well as have sufficient staff to perform complex audit activities would be able to attend to urgent matters and provide relevant advice to the management.

The result is in line with the findings of Arena (2013); Alzeban and Gwilliam (2014); Faiz, *et al.* (2016); Goerge *et al.* (2017); Drogalas, *et al.* (2017); Kabuye, *et al.* (2017); Asiedu and Deffor (2017); and Ziniye, *et al.* (2018) where they found that internal audit with required competency would lead to internal audit effectiveness. The finding is in contrast with the results of Muazu, (2012); Sorunke, (2016); and Olaoye and Dada, (2017) as they found that internal auditor's competence has an insignificant relationship with internal audit effectiveness. The result confirms the argument of the resource-based theory which assumes that for an internal auditor to discharge his/her monitoring activities effectively, he should have the required knowledge that is rare and non-imitable to deal with complex matters relating to audit activities as well as provide relevant recommendations to strengthen the internal control systems following review of the system operations.

4.7.4 Summary of Findings

Having presented all the results including main effects in preceding sections, Table 4.18 summarizes the results of all hypotheses tested.

Table 4.18 *Summary of the Hypotheses Tested*

Hyp.	Variables	T Statistics	P Values	Decision
H0 ₁	Manag. Support ->Internal Audit Effectiveness	9.063	0.000	Supported
H0 ₂	Inter. & Ext. Audit Relationship -> Internal Audit Effectiveness	36.080	0.000	Supported
H0 ₃	Competence-> Internal Audit Effectiveness	6.207	0.000	Supported

Source: Research Survey (2021)

In this chapter, all the three hypotheses tested were supported. The justification for using PLS path modeling to test the theoretical model in this study was presented. Following the assessment of significance of the path coefficients, the key findings of the study were presented.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter concludes the empirical investigation on the determinants of internal audit effectiveness: evidence from public University in South-West Nigeria. It also presents the summary, conclusions and corresponding recommendations for the study, based on the findings of the study. In addition, the study further presents the research's contribution to knowledge frontiers and limitation of the study, suggestions for future studies and limitation of the study.

5.1 Summary

Every year, billions of monies are lost to fraud and corruption resulting in inefficiencies, aborted projects, financial challenges, organizational failure, and, in extreme cases, humanitarian disaster (Institute of Internal Auditors, 2010). This may be as a result of ineffective internal audit system, poorly designed controls and weak governance which have seriously affected organizations' processes and attainment of their objectives. The menace of internal audit ineffectiveness is one of the most common challenges to governance that organizations face without regard to size, industry, or location (Kubasu, 2014). Therefore, this study examined the factors determining internal audit effectiveness in public universities in the south-west Nigeria.

The study reviewed previous literatures on determinants of internal audit effectiveness. The reviews were divided into three aspects; conceptual review; empirical review and theoretical review. The study vividly examined the concept of internal audit effectiveness and various factors determining internal audit effectiveness such as management support, internal and external auditor relationship and internal auditor's competence. This study was guided by the assumptions of resource-based theory. Therefore, the results of the previous studies were empirically reviewed and were divided into international and local studies. The international studies were further divided

into developed and developing nations for easy understanding and to bring out lacuna on previous studies about internal audit effectiveness.

The study employed a cross-sectional research design. The target population include all senior staff of internal audit department in public universities in the south-west Nigeria who are performing audit functions. In other words, the Director of Internal Audit, Deputy Director of Audit, Chief Internal Auditor, Principal Internal Auditor and other senior staff in the Audit Department of the public universities formed the population of this study. As at 31st September, 2019, there were fifteen public universities in the south-west Nigeria which comprise eight (8) state-owned universities and seven (7) federal universities (National Universities Commission, 2019). The total number of respondents covered by this study is one hundred and thirty (130) respondents which equally represent the sample size.

The major findings from the investigations in the study are discussed in accordance with the objectives of this study stated in chapter one. From the empirical analysis and hypothesis conducted, the first objective examined the effect of management support on internal audit effectiveness. The study found that management support has a significant effect at 0.05 level of significance on the level of internal audit effectiveness in public universities in the South-West Nigeria. Result from the PLS analysis ($t = 9.063$, $p\text{-value} < 0.000$). However, it failed to provide support to the null hypothesis one (H1) on the influence of internal audit effectiveness in public universities in the south-west Nigeria.

The second research question is used to investigate the second objective. This objective examined the impact of internal and external auditor relationship on internal audit effectiveness in public universities in south-west Nigeria. The result from the PLS-SEM analysis ($t = 36.080$, $p\text{-value} < 0.000$) showed that there is a positive and significant relationship between internal and external

auditors on internal audit effectiveness in public universities in the south-west Nigeria at 0.05% level of significance.

Finally, the third research question used to investigate objective three which investigate internal auditor's competence on internal audit effectiveness in public universities in the south-west Nigeria. The third variable which is the internal auditor's competence depicts a positive and significant relationship with internal audit effectiveness in the PLS-SEM result at 0.05% level of significance with ($t = 6.207$, $p\text{-value} < 0.000$).

5.2 Conclusion

Based on the result of the hypotheses tested in chapter four, the study concluded that management support, internal and external auditor's relationship and internal auditor's competence have a significant positive influence on internal audit effectiveness in south-west public universities in Nigeria. The study made influence on management support, internal and external auditor's relationship and internal auditor's competence have a significant positive influence on internal audit effectiveness in public universities in the south-west Nigeria using descriptive analysis and PLS analysis comes out to show the three major significant relationships. The study concluded that:

- i. Management support enhances internal audit effectiveness in public Universities in the South-West Nigeria. This implies that adequate attention given to management support of internal audit activities in public universities in the south-west Nigeria would assist Nigerian universities in having better, competent and prudent internal auditors that would deliver effectiveness.
- ii. The study also concluded that internal and external auditor's relationship improves the internal audit effectiveness in public universities in the south-west Nigeria. This would assist the

universities in the south-west Nigeria to have a better effective internal audit that can be relied upon by external auditors when they visit for statutory audit exercise.

iii. The study finally concluded that the internal audit effectiveness in public universities in the south-west Nigeria would improve its effectiveness without more emphasis on other variables if the auditor's competence is given preference during the selection process and while on the job.

5.3 Recommendations

Based on the findings of this study, the following recommendations are made for the improvement of the existing internal audit effectiveness level of public universities in the south-west Nigeria as related to management support, internal and external auditor's relationship and internal auditor's competence.

i. As the study found that management support improves the internal audit effectiveness of public university in south-west Nigeria, this study recommends that management of the universities should emphasize and provide more support and incentives that would continue to encourage the internal audit staff to put more efforts in their duties and subsequently impact positively on the internal audit effectiveness.

ii. The study also revealed that a cordial relationship between internal and external auditors tends to facilitate and enhance internal audit effectiveness. Hence, this study, therefore, recommends that there should be a cordial relationship between internal and external auditors so as to enhance the level of reliance on internal auditor's work and improve the organizational internal control system. The internal audit unit should also ensure timely reporting after each audit assignment.

iii. Finally, the study also revealed that the internal auditor competence has a significant and positive influence on internal audit effectiveness in public universities in south west, Nigeria. The result implies that internal auditor competence would improve the effective performance of public

universities through its staff by adhering to relevant provisions guiding their operations. The study, therefore, recommends that management of the public university in south-west, Nigeria should ensure that competent auditors are properly put in place especially in the area of checking, authorization, supervision and segregation of duties and personnel control.

5.4 Contributions to Knowledge

This section presents areas in which this study contributes to the literature on determinants of internal audit effectiveness: evidence from public universities in south-west, Nigeria.

- i. Previous studies reviewed on internal audit effectiveness had used different variables like internal auditor's independence, audit quality and size of internal audit department. Therefore, this study contributes to knowledge as it examined management support, competence and the relationship between internal and external auditor as determinants of internal audit effectiveness in public universities in the south west Nigeria.
- ii. More so, the previous studies reviewed used ordinary least square, multiple regression, Logit and Probit estimation in finding the relationship between the dependent and independent variables of their studies. This study is different and unique as it used Partial Least Square Structural Equation Model that can cater for deficiencies of ordinary least square regression.
- iii. Most of the studies reviewed in the Nigerian context largely centered on local government institutions, banking sector, public hospitals and private organizations. This study seems to be one of the few studies to examine the factors influencing internal audit effectiveness in public universities in the south west Nigeria.

5.5 Suggestions for Further Studies

- i. Further studies may be carried out to compare the determinants of internal audit effectiveness: evidence from universities in south-west Nigeria with other regions in Nigeria such as south-east, north-central etc.
- ii. Further studies may also be extended to cover the whole Nigeria to ascertain whether the same factors explain determinants of internal audit effectiveness: evidence from Nigerian universities as a whole.
- iii. Future studies may also be considered to cover other variables that are not used to proxy the determinants of internal audit effectiveness in this study.

5.6 Limitations to the study

A number of limitations are associated with this study. The first limitation to this study is the measurement adopted. The study relied on self-reported behaviour of the targeted respondents like most public fund management practices researches; however, scholars have pointed out that the behaviour portray under such a method may not be a truthful representation of their actual behaviour (Van Djike & Verboon, 2010). Therefore, drawing a conclusion from this study's findings with respect to actual behaviour must be done with caution.

The second limitation is in connection with the sampling method. As with other behavioural research, this study was carried out by sample representation but conducting a study with a sample representative of the population is problematic. In this case, generalization is an important issue. However, conducting this study at the federal and state level as well as the use of directors of audit from different universities in the south-west region enhanced the external validity of the study.

Nevertheless, this did not affect the findings of this study due to the fact that adequate empirical supportive evidence available in the study as the results is reliable and fit for policy formulation and implementation.

REFERENCES

- Abdullah, A.Y., & Mustapha, A.R. (2020). Factors impact on internal audit effectiveness: The case of Duhok University in Kurdistan-Iraq. *International Business and Accounting Research Journal*, 4(2), 89-94.
- Abrar, A. (2020). *Assessment of internal audit effectiveness in Ethiopian shipping and logistics service enterprise*. An unpublished M.Sc thesis submitted to St.Mary's University School of Graduate Studies, Ethiopia.
- Abu-Saeed, M., & Kabir, T.H. (2012). The role of internal audit unit in fraud prevention in government owned Hospitals in a Nigeria setting. *IOSR Journal of Business and Management*, 2, 39-44.
- Adeniji, A. A. (2004). *Auditing and investigation*. Lagos. Value analysis consult publishes.
- Albrecht, W. S., Albrecht, C. C., & Albrecht, C. O. (2004). Fraud and corporate executives: Agency, stewardship and broken trust. *Journal of Forensic Accounting*, V, 109-130.
- 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.
- Arena, M. (2013). Internal audit in Italian universities: An empirical study. *Procedia - Social and Behavioral Sciences* 93(2013), 2000 – 2005.
- Arens, A.A., Elder, R.J., & Beasley, M. S. (2010). *Auditing and assurance services: An integrated approach*. (13th ed.). New York, NY: Pearson Prentice Hall, Inc.
- Asiedu, K.F., & Deffor, E.W. (2017). Fighting corruption by means of effective internal audit function: Evidence from the Ghanaian public sector. *International Journal of Auditing*, 21, 82–99. doi: 10.1111/ijau.12082
- Association of Certified Fraud Examiners (ACFE) (2006). *Report to the nation on occupational fraud and abuse*. Austin, TX: ACFE.
- Association of Certified Fraud Examiners (ACFE) (2008). *Report to the nation on occupational fraud and abuse*. Austin, TX: ACFE.
- Badara, M. S., & Saidin, S.Z. (2012). Antecedents of internal audit effectiveness: a moderating effect of effective audit committee at local government level in Nigeria. *International Journal of Finance and Accounting* 2(2), 82-88.
- Badara, S. (2012). The role of internal auditors in ensuring effective financial control at local government level: A case of Alkaleri LGA. *Research Journal Finance and Accounting*, 3(4), 205-213.

- Bello, S.M., Che Ahmad, A., & Mohamad Yusof, N. (2018). Internal audit quality dimensions and organizational performance in Nigerian federal universities: the role of top management support. *Journal of Business and Retail Management Research*, 13(1), 156-170.
- Chambers, A.D. (2014). New guidance on internal audit: An analysis and appraisal of recent developments. *Managerial Auditing Journal*, 29(2), 196-218.
- Chambers, A.D., & Odar, M. (2015). A new vision for internal audit. *Managerial Auditing Journal*, 30(1), 34-55.
- Chevers, D., Lawrence, D., Laidlaw, A., & Nicholson, D. (2016). The effectiveness of internal audit in Jamaican commercial banks. *Accounting and Management Information Systems*, 15(3), 522-541.
- Cohen, A., & Sayag, G. (2010). The effectiveness of internal auditing: an empirical examination of its determinants in Israeli organizations. *Australian Accounting Review*, 20(3), 296-307.
- Cribb, J. (2006). Agents or Stewards? Contracting with voluntary organizations. *Policy Quarterly*, 2(2), 11-17.
- Daniela, P., & Alexandra, T. (2014). The role of internal audit in fraud prevention and detection. *Procedia Economics and Finance* 16(2014), 489 – 497.
- Davis, J.H., Allen, M.R., & Hayes, H.D. (2010). 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.
- Dittenhofer, M. (2001). Re-engineering the internal auditing organisation. *Managerial Auditing Journal* 16(8), 458–68. doi:10.1108/02686900110403163.
- Donaldson, L., & Davis, J. H. (1991). Stewardship theory or agency theory: CEO Governance and Shareholder Returns. *Australian Journal of Management* 16(1), 49-64. doi: 10.1177/031289629101600103.
- Dordevic, M., & Dukic, T. (2015). Contribution of internal audit in the fight against fraud. *Economics and Organization*, 12(4), 297 – 309.
- Drogalas, G., Pazarskis, M., Anagnostopoulou, E., & Papachristou, A. (2017). The effect of internal audit effectiveness, auditor responsibility and training in fraud detection. *Accounting and Management Information Systems*, 16(4), 434-454. DOI: <http://dx.doi.org/10.24818/jamis.2017.04001>
- 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.

- Erasmus, L.J., & Fourie, H. (2014). Perceptions on internal audit function contributions in South African national government departments. *African Journal of Public Affairs* 7(3), 1–16.
- Eulerich, M., Kremin, J., & Wood, D.A. (2019). Factors that influence the perceived use of the internal audit function's work by executive management and audit committee. *Advances in Accounting*, 33, 1-7. <https://doi.org/10.1016/j.adiac.2019.01.001>.
- Faiz, Z., Nabella, D.N., Rudi, P.T. (2016). The effectiveness of fraud prevention and detection methods at Universities in Indonesia. *International Journal of Economics and Financial Issues*, 2016, 6(3), 66-69.
- Fama, E. (1980). Agency problems and the theory of the firm. *Journal of Political Economy* 88, 2-28.
- Fitriyah, F.K. (2016). The role of the internal audit unit in detecting and preventing fraud at public Universities in West Java, Indonesia. *International Scholarly and Scientific Research & Innovation* 10(5), 1802-1809.
- Gramling, A., & Hermanson, D. (2009). Internal audit quality: would we know it if we saw it? *Internal Auditing*, 24(1), 36-39.
- Gujarati, D. (2004). *Basic Econometrics*. 5th Edition. McGraw-Hill/Irwin: New York.
- Gupta, R & McGee, R. W. (2016). A Comparative Study of New Zealanders' Opinion on the Ethics of Tax Evasion: Students Vs Accountants. *New Zealand Journal of Taxation Law and Policy*, 16(1), 47-84.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Upper Saddle River, New Jersey: Prentice Hall.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Thousand Oaks: Sage Publications.
- Hair, J. F., Money, A. H., Samouel, P., & Page, M. (2007). *Research method for business*. West Sussex, England: John Wiley & Sons Ltd.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2013). Partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance. *Long Range Planning*, 46(1–2), 1-12.
- Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science*, 40, 414-433.
- Harrington, C. (2004). Internal audit's new role. *Journal of Accountancy*, 198(3), 65-70.

- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial Least Squares path modeling in international marketing. In R. R. Sinkovics & P. N. Ghauri (Eds.), *Advances in International Marketing*, 20, 277-320).
- Hernandez, M. (2012). Toward an understanding of the psychology of stewardship. *Academy of Management Review*, 37(2), 172–193.
- Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: a review of four recent studies. *Strategic Management Journal*, 20(1), 195-204.
- Ibironke, E.O. (2019). Effect of internal audit quality on corruption in Nigeria public sector. *Amity Journal of Corporate Governance*, 4(1), 1-14.
- IIA (2002). *Standards for the Professional Practice of Internal Auditing*. Altamonte Springs, FL: Institute of Internal Auditors.
- IIA (2011). *Imperatives for change: the IIA Global Internal Audit Survey in Action*. Altamonte Springs, FL: Institute of Internal Auditors Research Foundation.
- IIA (2013a). IIA global internal audit competency framework. Available at: <https://na.theiia.org/> (accessed July 15, 2017).
- IIA (2013b). *Preventing and detecting fraud and corruption internal auditors' role*. Available at: www.isacaathensconference.gr/pastconf/fpf_2013/2_Cox_Fraud_Detection.pdf (accessed 22 July 2017).
- Institute of Chartered Accountants of Nigeria (2009). *Professional Code of Conduct and Guide for Members*. <https://icanig.ng> (accessed August 18, 2016).
- Institute of Internal Auditors (2010). *The IIA's 2010 Global Internal Audit Survey*. Altamonte Springs, FL: Institute of Internal Auditors.
- Institute of Internal Auditors (IIA) (1999). *Definition of Internal Auditing*. Altamonte Springs, FL: IIA.
- Institute of Internal Auditors. (2008). *Internal Auditor Competency Framework*. Available at: <http://www.theiia.org/guidance/additional-resources/competency-framework-forinternalauditors/>.
- Institute of Internal Auditors. (2010). *International Standards for the Professional Practice of Internal Auditing*. The IIA Research Foundation, Maitland Avenue, Altamonte Springs, Florida.
- 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.

- Ismajli, H., Aliu, M., Sahiti, A., & Lutolli, A. (2017). The role of internal audit as a starting point for the discovery of irregularities in the financial statements of public companies in Kosovo. *European Journal of Economics and Business Studies*, 3(1), 153-159.
- Israel, G. D. (1992). Determining sample size.
- Jensen M., & Meckling, W. (1976). Theory of the firm: Managerial behaviour, agency costs, and Ownership Structure. *Journal of Financial Economics* 3, 30-45.
- Kabuye, F., Nkundabanyanga, S.K., Opiso, J., & Nakabuye, Z. (2017). Internal audit organisational status, competencies, activities and fraud management in the financial services sector. *Managerial Auditing Journal*, 4, 21-37. <https://doi.org/10.1108/MAJ-09-2016-1452>.
- Kagashe D.B. (2008). *Effectiveness of the internal audit service unit in safeguarding public resources in Local Authorities: A case of Kibaha District Council*, Unpublished MBA Thesis, Mzumbe University.
- Kitojo, C. (2014). *Impact of internal audit efficiency on effectiveness of financial management in public Sector organizations: a case study of local government authorities in Shinyanga region* (Doctoral dissertation, Mzumbe University).
- Lestari, Y., & Bernawati, Y. (2020). The role of internal auditor effectiveness in preventing and detecting fraud. *Jurnal Akuntansi dan Pajak*, 20(2),189-196.
- MacRae, E., & Van Gils, D. (2014). *Nine elements required for internal audit effectiveness in the public sector*. Altamonte Springs, FL.
- Mathenge, M. N. (2016). *Effect of internal audit functions on fraud detection in insurance companies in Kenya* (Doctoral dissertation, University of Nairobi).
- 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), a778. <https://doi.org/10.4102/ac.v20i1.778>.
- Millichamp A. H. (2000). *Auditing*. 7th edition, Continuum, London.
- Millichamp, A. H. (2002). *Auditing*. 8th edition. London. ELST publisher
- Motubatse, K.N. (2014). Perceived role of internal auditing in fraud prevention and detection in South African public sector national departments. *African Journal of Public Affairs*, 6, 60-72.
- Mu'azu, S.B. (2012). 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

- Mweti, M. (2017). *Internal audit functions and level of financial fraud among commercial banks in Kenya*. An unpublished MBA thesis submitted to University of Nairobi.
- Olaoye, C.O., & Dada, R.A. (2017). The roles of auditors in fraud detection and prevention in Nigeria deposit money banks: Evidence from Southwest. *European Scientific Journal*, 13(31), 291-306.
- Olowolaju, M. (2013). Effect of internal audit on prevention of frauds, errors and irregularities in corporate organisation. *Research Journal of Finance and Accounting*, 4(19), 103-107
- Onoja, E.E., & Haruna, U. (2013). Internal audit techniques and fraud prevention: A case study of selected local government councils in Bauchi State. *Mediterranean Journal of Social Sciences*, 6(4), 232-244.
- Oyewumi, H.A., Ayoib, C. & Popoola, O.M.J. (2017). Internal auditors' independence and objectivity: Regulatory and statutory neglect. *International Journal of Economics, Commerce and Management*, 5(9), 410-423.
- Pastoriza, D., & Arino, M.A. (2008). When agents become stewards: Introducing learning in the stewardship theory.
- Pallant, J. (2003). *SPSS: A step by step guide to data analysis using SPSS for windows 10 and 11*. 3rd edition. USA. Open University Press, McGrawHill Education.
- Paul, C., Colin, F., & Robyn, M. (2008). Internal audit, alternative internal audit structures and the level of misappropriation of assets fraud. *Accounting and Finance* 48(2008) 543–559.
- Premium Times Newspaper. How embattled radio Nigeria sacked staff who exposed corruption. Retrieved 20 January, 2017 from <http://www.premiumtimesng.com/investigationspecial-reports/189287-how-embattled-radio-nigeria-dgladan-saliyu-sacked-staff-who-exposed-his-corruption.html>
- Premium Times Newspaper. How university vc was alleged of financial impropriety. Retrieved 11th July, 2017 from <http://www.premiumtimesng.com/how-university-vc-was-alleged-of-financial-impropriety.html>
- Purnamasari, P., Arezona, S.N., Lestira, M., & Mey, M. (2018). The effect of internal auditor on four main pillars in fighting fraud. *International Journal of Management and Applied Science*, 4(3), 26-30
- Quick, R., & Henrizi, P. (2018). Experimental evidence on external auditor reliance on the internal audit. *Journal of Management Science*, 4, 1-34. <https://doi.org/10.1007/s11846-018-0285-0>
- Schepers, J., Falk, T., Ruyter, K., Jong, A., & Hammerschmidt, M. (2012). Principles and principals: Do customer stewardship and agency control compete or complement when shaping frontline employee behavior? *Journal of Marketing*, 1(76), 1–20.

- Seol, I., & Sarkis, J. (2005). A multi-attribute model for internal auditor selection. *Managerial Auditing Journal*, 20(8/9), 876-892.
- Shohihah, I., Djamhuri, A., & Purwanti, L. (2018). Determinants of internal audit effectiveness and implication on corruption prevention in the religious ministry. *Journal of Wacana*, 21(1), 1-14.
- Sorunke, O.A. (2016). Internal audit and fraud control in public institutions in Nigeria: A survey of local government councils in Osun State. *International Journal of Academic Research in Business and Social Sciences*, 6(2), 153-158.
- Strauss, K. (2009). Accumulation and dispossession: Lifting the veil on the subprime mortgage crisis. *Antipode*, 41(1), 10–14.
- Sullivan, K. (2009). *As Internal Audit Staffs Shrink, Will Fraud Rise?* CFO Publishing Corporation. www.cfo.com/printable/article.cfm/14461787.
- Suwaidan, S.S., & Qasim, A. (2010). External auditors' reliance on internal auditors and its impact on audit fees. *Managerial Auditing Journal*, 25(6), 509-525.
- Taiwo, I.B. (2019). An assessment of the determinants of internal audit efficiency in the Nigerian public sector. *IJRDO - Journal of Business Management*, 5(6), 33-46.
- The Guidance Newspaper. How oau vice chancellor was imprisoned for financial recklessness. Retrieved 13 August, 2018 from <http://www.guardiannews.com/how-oau-vc-was-imprisoned-for-financial-recklessness.html>
- Türetken, O., Jethefer, S., & Ozkan, B. (2020). Internal audit effectiveness: operationalization and influencing factors. *Managerial Auditing Journal*, 35(2), 238-271. <https://doi.org/10.1108/MAJ-08-2018-1980>.
- Ugrinowitsch, C., Fellingham, G.W., & Ricard, M.D. (2004). Limitations of ordinary least squares models in Analyzing repeated measures data. *Medicine & Science in Sports & Exercise*, 4, 2144 – 2148. DOI: 10.1249/01.MSS.0000147580.40591.75.
- Unegbu, A., & Kida, M. (2011). Effectiveness of internal audit as instrument of improving public sector management. *Journal of Emerging trends in Economics and Management Science* 2(4), 304-309.
- Van Dijke, M., & Verboon, P. (2010). Trust in authorities as a boundary condition to procedural fairness effects on tax compliance. *Journal of Economic Psychology*, 31, 80-91.
- Wetzels, M., Odekerken-Schroder, G., & Van Oppen, C. (2009). Using PLS path modeling for assessing hierarchical construct models: guidelines and empirical illustration. *MIS Quarterly*, 33, 177-195.

- Yusof, N. A. Z. M., Haron, H., Ismail, I., & Chye, O. H. (2019). Independence of Internal Audit Unit Influence the Internal Audit Capability of Malaysian Public Sector Organizations. *KnE Social Sciences*, 1230-1253.
- Zain, M.M., Subramaniam, N., & Stewart, J. (2006). Internal auditors' assessment of their contribution to financial statement audits: the relation with audit committee and internal audit function characteristics. *International Journal of Auditing*, 10(1), 1-18.
- Zaini, A., & Dennis, T. (2011). Commitment to independence by internal auditors: the effects of role ambiguity and role conflict. *Managerial Auditing Journal*, 24(9), 899-925, <https://doi.org/10.1108/02686900910994827>
- Ziniyel, D., Otoo, I.C., & Andzie, T. (2018). Effect of internal audit practices on financial management. *European Journal of Business, Economics and Accountancy*, 6(3), 39-48.

Appendix I

Department of Accounting and Finance,
School of Business and Governance,
Kwara State University, Malete.
17th August, 2020.

Dear Sir/Ma,

LETTER OF INTRODUCTION AND QUESTIONNAIRE

I am a M.Sc. student in the Department of Accounting and Finance, School of Business and Governance, Kwara State University, Malete. I am presently carrying out a research titled: “Determinants of internal audit effectiveness in public Universities in the South-West Nigeria”. A questionnaire has been developed essentially for this research purpose. I humbly request your invaluable contribution to the success of this research work. All information provided will be treated with strict confidentiality and for academic pursuit.

Thank you in anticipation of your kind assistance and cooperation.

Yours faithfully,

OSENI NAJEEM ADEWALE.
15/27/MAC021

INSTRUCTION

Please, tick against the appropriate option from the options given in sections A and B.

NOTE: SA = Strongly Agree; A = Agree; D = Disagree; SD = Strongly Disagree

Section A

Demographic Information

1. Age: Below 30 years () 30-35 years () 36-40 years () 41-45 years () 46 years above ()
2. Gender: Male () Female ()
3. Marital Status: Single () Married () Divorced () Widowed ()
4. Working Experience: 5-10 years () 11-15 years () 16-20 years () 21 years above ()
5. Highest Qualification: HND/B.Sc () M.Sc./MBA () Others, specify _____
6. Professional Qualification: ICAN () ACCA () ANAN () Others specify ()

Section B (Independent Variable)

Please indicate the extent of your agreement with each statement

Statement on Management Support	SA	A	D	SD
(i) Internal audit administratively reports to executive Management in my University.				
(ii) Internal audit receives adequate feedback from management on audit findings				
(iii) Internal audit recommendations are implemented by Management				
(iv) Management provides internal audit with adequate Resources				
(v) Management usually consults internal audit on fraud management				
(vi) Management perceives internal audit as a value adding activity				
(vii) The management's decision making process is strongly affected by the reports and findings of the internal audit department.				

Please indicate the extent of your agreement with each statement

Statement on Relationship between internal and external auditors	SA	A	D	SD
(i) External auditors are friendly and supportive to internal auditors in my University.				
(ii) External auditors have good attitude towards internal auditors.				
(iii) External auditors are willing to give internal auditors an opportunity to explain their concerns.				
(iv) External and internal auditors consult on the timing of work in which they have mutual interest.				
(v) External auditor relies on the reports of the internal auditor when carrying out the external audit assignment				
(vi) External auditors discuss their plans with internal audit.				

Please indicate the extent of your agreement with each statement

Statement on Competency	SA	A	D	SD
(i) The internal audit unit has sufficient skilled personnel.				
(ii) The internal audit staff number and their skill match the scope of offices internal operations.				
(iii) The audit procedures and evidence collections are completed on time, since enough and skilled internal auditors are available or employed.				
(iv) It is possible to audit and review each activity on time, and cover the planned scope of auditing activities.				
(v) Internal audit is carried out in accordance with international standards for professional performance of internal audit.				
(vi) The internal audit staff are able to use modern technology (use computerized data tools and specific internal audit software).				

Internal Audit Effectiveness (Dependent Variable)

The following statements relate to your attitudes towards Accounting control systems in your department.

Please indicate the extent of your agreement with each statement

Statement on Internal Audit Effectiveness	SA	A	D	SD
(i) The internal audit creates added values to the organization				
(ii) Internal audit improves the adequacy and effectiveness of the organization's systems of internal account and operating controls.				
(iii) Internal auditing provides information on problems in the activity or control systems in the organization				
(iv) Internal audit ensures the economical, effective and efficient use of organization resource.				
(v) Internal audit reviews operations and programmes to ascertain whether results are consistent with established objectives and goals				

(vi) Internal audit reviews the compliance with policies, plans, procedures and regulations.				
(vii) Internal audit reviews the means of safeguarding assets and evaluates the internal control system				
(viii) Internal audit makes recommendations for improving the internal control system.				

Appendix II

List of Universities in the South-West Nigeria

S/N	Universities
1	Adekunle Ajasin University, Akoko
2	Lagos State University, Ojo
3	Ladoke Akintola University of Technology, Ogbomosho
4	Osun State University, Osogbo
5	Olabisi Onabanjo University, Ago-Iwoye
6	University of Medical Science, Ondo
7	Ekiti State University, Ado Ekiti
8	Ondo State University of Science & Technology, Ondo
9	Obafemi Awolowo University, Ile-Ife
10	Federal University of Technology, Akure
11	National Open University
12	Federal University, Oye-Ekiti
13	University of Ibadan
14	University of Lagos
15	Federal University of Agriculture, Abeokuta

Source: National Universities' Commission websites (2020)

Appendix III
Population Size

S/N	Respondents	Frequency
1	Directors of Audit	9
2	Deputy Director	13
3	Chief internal Auditor	21
4	Principal Internal Auditor	17
5	Other Senior Audit Staff	70
	Total	130

Source: Research Survey (2021)

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