

**AN ASSESSMENT OF INTERNAL AUDITS EFFECTIVENESS OF
CONSTRUCTION FIRMS IN GHANA: A CASE STUDY OF SPACE SCHEDULERS
COMPANY LIMITED**

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By

EZEKIEL OTIBO

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DECLARATION

I hereby declare that this submission is the result of my own work towards the Masters of Science (Accounting and Finance Option) programme and that, to the best of my knowledge, this study contains no materials previously published by no person or submitted for the award of any other degree of the University, except where acknowledgement has been duly made in the text.

Ezekiel Otibo
(Name and PG9406921) Signature Date

Certified by:

Dr. Richard Owusu-Afriyie
(Supervisor) Signature Date

Certified by:

Prof. K. O. Appiah
(Head of Department) Signature Date

DEDICATION

I dedicate this thesis to Almighty God and My Beloved Family

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First and foremost, I have to thank my parents for their love and support throughout my life. Thank you both for giving me strength to reach for the stars and chase my dreams. My siblings, aunties and uncles. Your prayer for me was what sustained me this far.

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ABSTRACT

The study adds to the global debate on private sector audit by examining whether internal auditor independence, internal auditor competence, and control environment affect internal audit effectiveness in construction firms using Space Schedulers Company Limited (SSCL) as a case study. The study uses descriptive and explanatory designs using quantitative analysis to achieve research objectives. The study uses seventy respondents across various units directly related to auditing procedures and employs the Ordinary Least Square (OLS) model and other statistical analyses to achieve the study's objectives. The study finds that the efficiency of private sector audits in Ghana's construction sector is due to internal audit competencies and control of environmental systems. The study recommends that internal auditors are encouraged to be professionally certified accountants in evaluating auditing issues in construction firms in Ghana. Also, stakeholders such as directors, supervisors, and other top management should allow internal auditors to perform their professional obligations without fear independently to increase internal audit effectiveness. There should be proper training and education on modern technology or computerized accounting systems to help internal auditors detect financial omissions, monitor risk, and ensure adequate internal control environment systems. Other practical and theoretical implications are discussed in the study.

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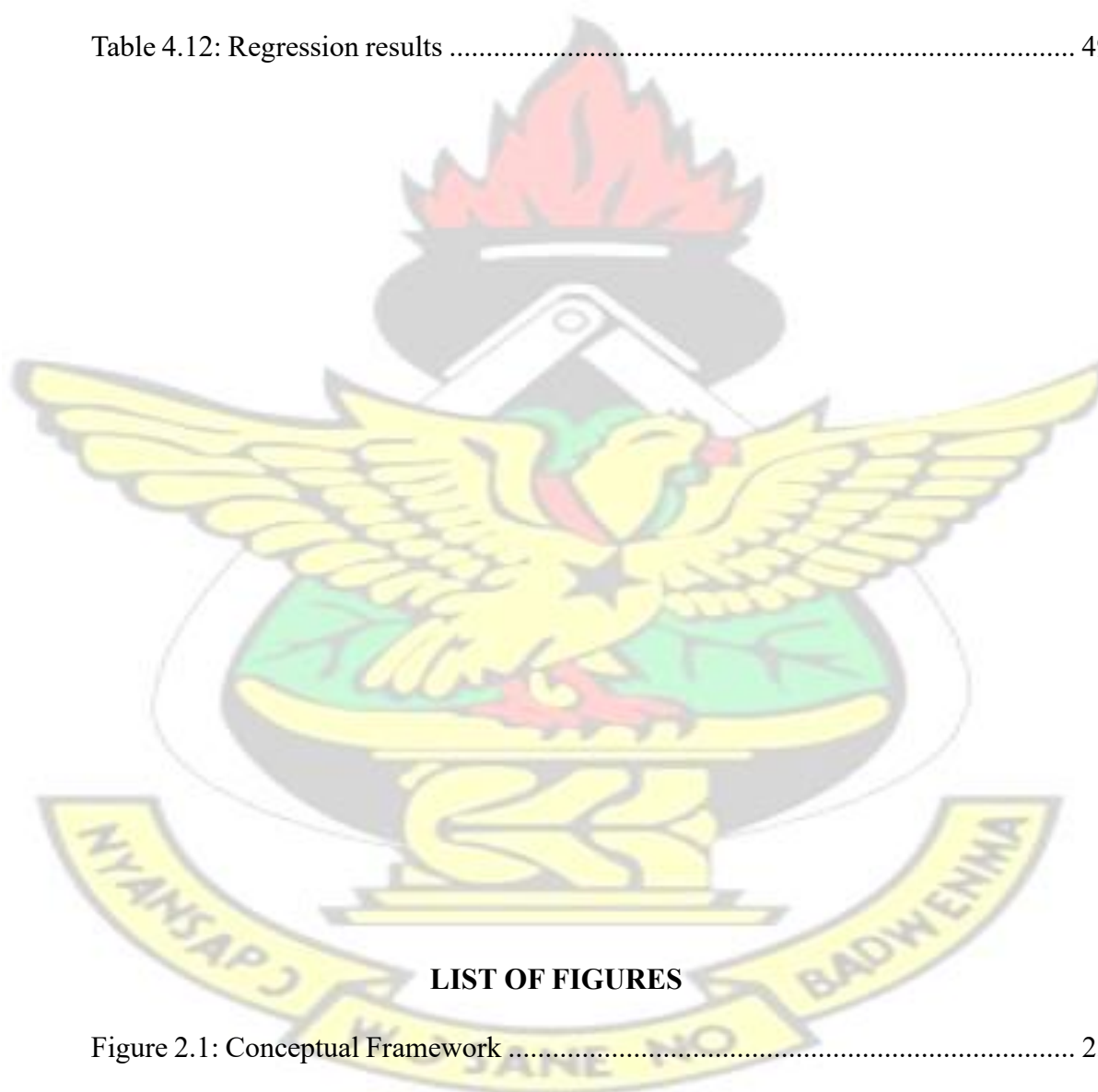
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CHAPTER ONE

INTRODUCTION

1.1 Background of

the Study

Internal auditors have also been recognized globally due to their significant roles such as financial assessments, professional guidance on financial issues, involvement in making strategic decisions of the organization, and training at all aspects of an organization (Anh et al., 2020). Most organizations place huge investment and value on internal audits due to their significant contributions to productivity, sustainability, performance, risk management, and strategic objectives (D'Silva and Ridley, 2007).

The International Standard of Audit (ISA 610) highlights that internal audit monitors and appraises the firm's or entity's activities and operations and provides services that examine, evaluate, and report to directors or managers on financial or non-financial internal controls issues. The perceived significance of internal audit, as a facet of corporate governance, has increased, thereby highlighting the need to exact the parameters of what indeed constitutes a significant determinant of internal audit effectiveness in Ghana, notably private sectors in Ghana because resources ought to be seen to be effectively utilized in these institutions to increase employment, and socio-economic development in Ghana (Gyimah et al., 2022).

The internal auditors in private institutions report and appraise the appropriateness of internal systems, evaluate risk effectiveness and governance processes; ensure the there is effective, efficient, and economic use of scarce resources to administer programs and evaluate compliances per applicable policies, laws, standards, enactments, procedures, and systems (Gyimah et al., 2022). Thus, the management of every institution is under

increasing pressure to enhance internal audit effectiveness due to its significant impact on irregularities and fraud prevention, sustainability, and risk management (Anh et al., 2020).

Despite the crucial roles of internal auditing on the efficacy of institutions, the actual enactment of internal controls within the environment of institutions virtually does not exist, and the topic is relatively unexamined by scholars (Jokipii, 2010; Onumah, Kuipo, and Obeng, 2012; Gyimah et al., 2022), especially in the construction sector. Due to significant internal audit effectiveness, little evidence has been found related to companies examining the drivers contributing to internal audit effectiveness in developing countries.

A recent audit report shows financial irregularities among top companies across the country. This research adds to the international debate or extant research on internal audit effectiveness or quality as a solution to effective governance that promotes accountability and transparency in private institutions focusing on construction firms. Albeit a major limitation of internal audit, which has been criticized, most internal auditors work within the vicinity of management, thereby putting their independence in serious jeopardy. These and many other scholarly researchers are calling for the need to examine the independence, competence, and control environment of the effectiveness of internal audits from a developing country perspective. Thus, this study adds to the existing literature by investigating whether internal auditor independence and competence and control environment influence internal audit effectiveness in Ghana using Space Schedulers Company Limited (SSCL) as a case study.

1.2 Problem Statement

Internal auditing has become more critical in recent years, and academics have been obliged to concentrate on the aspects that contribute to effective audits in Africa and throughout the globe (Owodo, 2016; Nyaga et al., 2018; Shamsuddin and Bharathi, 2014). This issue has been the subject of several studies (Owodo, 2016; Nyaga et al., 2018; Shamsuddin and Bharathi, 2014). Besides strengthening corporate governance and increasing internal audits, the Agency's monitoring also includes enhancing the ability to detect and prevent fraud. Although yearly reports from Auditors have routinely uncovered some sort of financial mismanagement in most private-sector companies throughout the years (Asiedu and Deffor, 2017). However, internal auditing remains a neglected area of study (Mihret and Grant, 2017), despite its significant component in the governance systems, particularly within the stir of the upsurge of mismanagement of finance and bankruptcies in developing countries (Gramling et al., 2004), especially in the private sector. According to Anh et al. (2020), focusing on internal audit quality can significantly boost the confidence of stakeholders in the private sector's reporting information.

Meanwhile, most prior studies on internal audit effectiveness on the performance of private sector entities have produced mixed and conflicting results. Some studies relate auditing to improved private sector performance, while others link auditing to decreased performance (Carlson et al., 2013). Also, there are conflicting determinants of the effectiveness of internal audits and performance in private institutions. Tackie et al. (2017) concluded that audit competencies and independence, career progression, and management support drive internal audit quality in private institutions in Ghana.

However, Aseidu and Deffour (2017) argued that the audit size and independence of an organization's internal audit department contribute to internal audit effectiveness and performance. Owodo (2016) additionally considered attributes such as competency, managerial support, and audit committees. Further, Gamayuni (2018) argues that focusing on internal auditors' independence and competencies prevents financial mismanagement. Thus, recent researchers are calling for more studies to examine whether internal audit independence and competencies significantly improve internal audit effectiveness in sub-Saharan regions such as Ghana. Shockingly, the prior studies in Ghana on internal audit effectiveness researched listed firms (see Onumah et al. (2012) or metropolitan, municipal, and district assemblies (Tackie et al., 2016, Awuah et al., 2015), neglecting the construction institutions.

Also, prior research on the effectiveness of internal audits ignores the role of the control environment, despite the agency theory's focus on it (Sekyi, Kofi, and Moreno Gené, 2017). Thus, the study adds a control environment to assess its effect on private sector audits in Ghana's construction sector. In addition, this study explores whether the internal auditors' independence and competencies affect internal audit effectiveness, knowing the growing outcry of governance scandals and the ill use of scarce resources in the private sector in Ghana.

1.3 Research Objectives

The study aims to explore private sector audits' efficiency in Ghana, using Space Schedulers Company Limited (SSCL) as a case study. Specifically, the study is:

1. To investigate the impact of internal auditor independence on the effectiveness of internal audits at SSCL.

2. To examine the impact of internal auditor competence on the effectiveness of internal audits at SSCL.
3. To examine the effect of the control environment on the effectiveness of internal audits at SSCL.

1.4 Research Questions

1. What is the effect of internal auditor independence on the effectiveness of internal audits at SSCL?
2. What is the impact of internal auditor competence on the effectiveness of internal audits at SSCL?
3. Does the control environment affect the effectiveness of internal audits at SSCL?

1.5 Significance of the Study

This study would provide implications to policymakers, key stakeholders, management, and internal auditors in the construction sector in Ghana to understand and focus on the specific contributors that affect internal audit effectiveness. The study's findings would highlight the understanding of determinants of the effectiveness of internal audits of a construction firm in Ghana. This study can serve the management of construction firms to create value for them, avoid bankruptcy, and protect the administration and operational costs according to the company's policies and procedures.

Another practical importance of this study is that the result would help develop plans or strategies to effectively monitor the activities of companies through hands-on internal audit tasks. Moreover, the study's findings could help internal audit

professional bodies re-design the set of skills and competencies needed for their profession, consistent with the evolution that is currently taking place in the role of internal audit within construction firms.

As a result of this research, internal auditors in Ghana will be better able to advocate for higher internal auditing standards. Moreover, the study is particularly important as it can help policymakers know the major determinants of internal audit effectiveness to ensure effective management of scarce resources for robust operational delivery. Theoretically, this study adds to the international debate on internal audit effectiveness in construction institutions and can serve as a reference for further studies.

1.6 Scope of the Study

The study identifies the efficiency of private sector audits in construction sector using Space Schedulers Company Limited (SSCL) as a case study. Put differently, the study focuses on internal auditing in private sector organizations using SSCL as the case study. Only primary data using questionnaires is used to solicit responses from management and employees of SSCL, and it covers various levels of departments within the construction firms.

1.7 Brief Methodology

The study uses descriptive and explanatory designs using quantitative analysis to achieve the research objectives. The research targets management and staff in audit procedures or processes at Space Schedulers Company Limited (SSCL) soliciting their responses using questionnaires to achieve the objectives. The study relies on previous questionnaires of Alzeban and Gwilliam (2014) and Gamayuni (2018) on drivers of

internal audit effectiveness to collect data for empirical analysis. Responses from questionnaires are first coded into Microsoft excel and exported to STATA software for data analysis. Descriptive and inferential statistics, including Pearson correlation and regressions, are presented in tables for discussion.

1.8 Organization of the Study

The research is organized into five (5) chapters. Chapter one discusses the research background, statement of the problem, objectives of the study, questions of the study, brief methodology, scope of the study, significance of the study, and study's organization or structure. Chapter two presents the existing literature under four main heading: theories, concepts, empirical reviews, and conceptual framework. Chapter three is the methodology chapter that focuses on the research designs, the study's targeted population, sample and sampling techniques, data collections procedures, analysis of the data, model and measures, validity and reliability, and ethical considerations. Chapter four presents the results for discussions according to the research objectives. The final chapter summarizes the research findings and provides conclusions and recommendations or implications for stakeholders.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents extant studies under four major themes: theoretical reviews or theories, conceptual reviews or concepts, empirical reviews, and conceptual frameworks. The theoretical review presents the theories underpinning the study. The conceptual reviews are the background, definition, or explanation of key concepts used in the study. The empirical reviews show the existing studies conducted by scholarly researchers on the drivers of internal audit effectiveness. Finally, the conceptual framework is the network of variables used to achieve the study's objective.

2.2 Theoretical Review

Two theories (namely the instructional and stakeholder theories) are used to achieve the study's objectives. The purpose of a theory is to explain a phenomenon. As a result of the changes in question, behavioral challenges have arisen, and stakeholders' and institutions' theories have been investigated to determine why this has happened.

2.2.1 Institutional Theories

Organizations are most usually characterized as sets of beliefs, principles, and norms that embody the veracity of an organization, establishing truth and non-truth issues and what behaviors are authorized and prohibited (Hoffman, 2009). Instead of being considered as scripts, institutions may be understood as stable designs for recurring activity sequences, with departures from these patterns being punished or otherwise expensive in some way (Jepperson, 2018). While the institutions that surround an

organization exert influence, establishing norms and regulations that an organization must follow to earn support and legitimacy from the institutions around it is a distinguishing feature of institutional environments. Institutional environments are characterized by establishing norms and regulations that an organization must follow to earn support and legitimacy from its institutions (Scott, 2015). Scott (2015) stipulated that organizations restrain conduct due to procedures linked with three (3) mainstays: the regulative, the normative, and the cognitive. It is important to understand organization because institutional arrangements are frequently replicated in reality without much analysis, are taken for granted, and lead to the establishment of route dependencies, among other things (Berger and Luckmann, 2018).

Institutional arrangements are significant to the study of organizations because of the simplicity with which they may be copied and taken for granted in practice (Langer and Newman, 2011; Berger and Luckmann, 2018; Arthur, 1988). Organizational scholars who have historically focused on this problem are unanimous in their belief that institutions contribute to significant roles in ensuring continuity and stability of organizational processes and activities. Transaction costs may contribute to the belief held by certain institutional researchers that institutions have originated and have survived through time (Coase, 2019; Williamson, 2008). Institutional arrangements seek to lower transaction costs involved with contract compromise, monitoring, and execution between rational persons by minimizing uncertainty and opportunistic behavior. This is one of the fundamental purposes of institutional arrangements. The opposite of what is often believed, institutional institutions tend to replicate rather than modify the social structures that currently exist in society. If we are talking about legitimacy, the institutional theory is concerned with the many ways in which

institutional frameworks might be employed to obtain that legitimacy. The actions of a legal entity are regarded legitimate if they conform to a set of commonly recognized customs, standards, and religious beliefs (Suchman, 1995: 574). Particular activities inside a specific institutional zone become tolerated, and in some cases mandatory, for actors, according to Meyer and Rowan (2010), who said in their book that it becomes increasingly difficult for actors to break from their prescribed route of action.

The institutionalism school of thought has come under scrutiny for emphasizing consistency and uniformity above all other considerations. Some detractors have overlooked topics such as agency, interest, and reviews of change and flexibility, among other things (DiMaggio, 1983; cited in Tenakwah, 2015). According to DiMaggio, one of the answers to this critique has been the formation of the idea of the institutional entrepreneur (1983; see Tenakwah, 2015). Another distinguishing characteristic of institutional theory is the inclusion of three new dimensions: coercive, mimetic, and normative. Individuals who use their resources to establish and strengthen institutions are called institutional entrepreneurs because they put their money where their mouth is. They are also referred to as social entrepreneurs, which is appropriate given what they accomplish. According to Fligstein (1997; cited in Tenakwah, 2015), people who are institutional entrepreneurs possess a diverse range of social abilities. In his opinion, institutional entrepreneurship is based on the premise that some social actors are more effective at achieving desired social outcomes than others (Fligstein, 1997, cited in Tenakwah, 2015). It is also important to know what an institutional entrepreneur is and what they do. Suppose evidence of effective change in organizational practice is read to suggest that it is the outcome of institutionalism. In that case, institutional entrepreneurs are the ones who are accountable for bringing about actual change in

organizations. It's also worth mentioning for those interested in the isomorphic pressures that define the institutional theories as a whole.

Per the literature, three sorts of forces might cause isomorphic transformation: coercive, mimetic, and normative forces (DiMaggio and Powell, 1983; Ashworth et al., 2009). Per DiMaggio and Powell (1983), a wide range of actors both inside and outside of organizations, may exert institutional pressure on certain organizations, causing them to adopt specific organizational structures and operational approaches. Professional organizations may exert normative pressure on their members. Mimetic pressure might also come from consultants and other third parties. An organization's transformation process begins when these expressions signal the beginning of the process.

Coercive forces are exercised by one organization to persuade them to adopt specific organizational structures or institutional structures or institutions. These pressures are often applied by political and legal means and by restricting access to resources and other strategies that seem appropriate in the context. As a result of their reliance on others and their political vulnerability, these organizations are incredibly open to external influences and manipulation (DiMaggio and Powell, 1983). These pressures are often brought on by a lack of resources available to the beneficiary groups to carry out their responsibilities. The influence of development partners has a particular impact on state institutions.

A mimetic pressure is a term that refers to the impact of excellent or good practice on the decisions taken by businesses when it comes to the establishment of organizational structure. While these tactics have not been shown to be helpful, some companies tend

to duplicate or mimic what seems to be desired or accepted practices within the sector or industry in which they operate, regardless of whether or not they are effective. It is uncertain whether or whether an organization will be vulnerable. This is particularly true when uncertainty obscures the link between organizational means and objectives, making it more challenging to make methodical decisions (DiMaggio and Powell, 1983).

'Normative pressures are what is referred to when professional norms and affiliations affect the features of a business (Ashworth et al., 2009). Expert groups that accept certain processes, so establishing them as industry standards, significantly influence these situations. To guarantee that the operations of these institutions are consistent and forced, regulatory bodies are often tasked with pressuring other institutions to adhere to the standards established by them. Consequently, the actors in the business are unable to withstand the demands.

It is reasonable to conclude from applying institutional theory in this research that the audit service's actions are impacted to some extent by the activities of other institutions. The use of coercion by one institution may result in a change in the behavior of a second institution as well. Some of these requests may be satisfied by financial or technical help provided by organizations in that field. Taking inspiration from their counterparts in other nations in terms of imitation is something that institutions may do if they believe it is suitable in the particular context. When an organization is required to adopt specified best practices, whether locally or worldwide, to enhance its operations, normative restrictions apply to that company as a result. It may occur when members

of a group are compelled to behave themselves in a manner that does not conflict with the opinions of their fellow members.

2.2.2 Stakeholder Theories

The participants in an organization are those individuals or groups who have an impact on or are influenced by the rules and procedures of the organization. It is possible to have many interpretations for the term "stakeholder." In words cited in Tenakwah (2015), stakeholders are individuals or groups of individuals who can affect or are impacted by a firm's operations in some manner, whether directly or indirectly, by their actions. From both an internal and an external perspective, stakeholders in firms may be seen. According to Tenakwah (2015), external stakeholders are not part of the organization, and internal stakeholders are part of the organization, such as functional divisions and employees.

Tenakwah (2015) classifies stakeholders into primary and secondary stakeholders. Their opinion is that the major stakeholders, including workers, customers, investors, suppliers, and shareholders, continue to participate in the critical sustainability of the company. In addition to the media and trade unions, NGOs and other concerned individuals or civil society organizations are examples of secondary stakeholders. Most of the time, they are not involved in transactions with the primary organization and are not required for its continued operation. In contrast to significant stakeholders, secondary stakeholders have distinct goals and expectations.

Tenakwah (2015) indicated that stakeholders who are not directly involved in the organization's core activities might pressure the organization, leading its legitimacy and

right to exist to be called into doubt. Stakeholder theory may be divided into three types: normative, instrumental, and descriptive stakeholder theories—description: (Jones, 2019). Instrumental theory may be of interest to stakeholder theorists who have a concentration on social science. Per this theory, a given outcome will be achieved if certain behaviors are followed. The instrumental theory is a kind of contingent theory that implies that the anticipated consequences are contingent on a certain path of action. It is not required for the theorist to make basic assumptions about the nature of human conduct to avoid depending on the premise of self-interest (or opportunism) as articulated by economists to explain human behavior. It is feasible to prevent oversimplifying or overcomplicating human behavior by applying this virtue, resulting in models that make bad predictions (resulting in hopelessly complex models). A corporation's competitive advantage is shown, according to Jones (2019), if it contracts with its stakeholders based on mutual trust and collaboration, demonstrating the general assumption that the firm has a competitive advantage.

Creating trustworthy and cooperative relationships with stakeholders is not something managers must do. Still, there is an argument that they will gain a competitive advantage if they do. His opinion is that some actions display management shortsightedness and make it impossible for businesses to establish relationships with their constituents or customers that are both trustworthy and cooperative. These empirical claims are straightforward and methodologically tractable since they are based on typical financial measures of a company's performance. There is a fundamental idea in stakeholder theory that asserts that firms should consider the interests of all of their stakeholders, not just investors, when making decisions about

their operations. Because of this, firms are evaluated on various factors other than their financial performance.

According to Tenakwah (2015), organizations should see stakeholders as goals in and of themselves rather than as a means to achieve other goals. Supporters of this stakeholder viewpoint are attempting to build alternative business descriptions that will allow managers to deal with stakeholders in an ethical and ethically appropriate manner. There is a great deal of debate regarding the company's direction. Regarding both the objectives and the methods used in achieving them and the reasons why these methods are appropriate (Tenakwah, 2015). While they do not want to divert the attention of businesses away from market success and toward human decency, they do wish to foster a business mentality in which both goals are intertwined and mutually reinforcing to achieve both. Individual evaluations of suitable strategic activity, according to DiMaggio and Powell (1983) and Meyer and Rowan (1977), are influenced by representations of what constitutes reasonable strategic conduct, according to the authors (DiMaggio and Powell, 1983).

Companies must identify essential problems to the most critical stakeholders in their operations following the descriptions above. According to Freeman, for a company's long-term existence, interested parties give funds significant to the firm's activities or production (Tenakwah, 2015). Depending on the conditions, participant resources might be in the form of physical or intangible assets, respectively. Shareholders contribute capital, while employees and management offer expertise, leadership, and devotion. Suppliers offer substantial assets or intangible knowledge, while indigenous societies supply substructure, and local communities assist in the dissemination of good

corporate images (Maignan 2012; cited in Tenakwah, 2015). As a result, stakeholders may campaign for improvements in the audit service's techniques and procedures to legitimize the audit service's activities. When other nations or comparable institutions engage in activity that seems important to the general private, these stakeholders often request that they change their conduct. If they are found to be relevant, these organizations may be asked to modify the organization's internal processes and procedures.

2.3 Conceptual Review

2.3.1 Internal Audit Concepts

Internal auditing may be improved by reviewing, enhancing, and controlling risks and systems, which is now the current concept of internal audit (Asare, 2019). Aspects of management of risks, controls, and governance systems include rules and techniques put in place to enhance the attainment of strategic objectives, such as risks valuation, dependability of in-house reporting and accountability procedures, the acquiescence of applicable rules and conventions, as well as amenableness with the behavioral and moral ethics established for an organization and its staff. In this context, risks administration, controls, and governance systems are all terms that are used to refer to this process. Risk management encompasses the accomplishments and activities that a firm does to ensure that it is well-educated about the risks it confronts, makes informed choices about how to manage those risks, and identifies and capitalizes on potential opportunities. Generally speaking, the word "control" refers to all of the actions taken by an organization's leadership to guarantee that its resources are held to a greater degree of accountability than they otherwise would be. It is the means of ensuring credibility, equitable service delivery, assurance of appropriate behavior, and mitigating

the threat of corruption that are referred to as governance when it comes to setting and achieving goals (IIA, 2006).

In internal auditing, according to Mihret and Yismaw (2007) and IIA (2010), what counts most is the capacity of auditors, both internal and external, both within and outside of an organization, to achieve certain objectives. This is true for both internal and external auditors (2007, 2008). The organization's management determines the objectives of an organization's internal audit unit, which is true for any business, and an internal audit ensures that these goals are met (Pungas, 2003). Because of the differences in effectiveness across firms' stages and countries (Al-Twajry et al., 2003), organizations should set clear objectives for internal audits to achieve the scarce assets and additional methods that may aid in attaining such objectives (Al-Twajry et al., 2003). Although internal auditors may be examined using systematic and usually reliable procedures, it is suggested that their performance relies on the prospects of the major interested party they serve (Dittenhofer, 2001).

2.3.2 Factors Influencing Internal Audit Effectiveness

Changes were made to Cohen and Sayag's (2010) criteria of successful internal auditing to satisfy the needs of this study. When it comes to the first three determinants of the profession (auditors' professional proficiency, auditing quality, and auditing departments' organizational independence), there is no conflict of interest between an auditor's professional interests and the company's interests that hired them. Professional progress and management help for internal auditors are prioritized above their professional interests when it comes to the employer's interests compared to their professional interests. When someone has the expertise, specific knowledge, and

abilities in a subject, they actively participate in paid employment, this is referred to as "professional competence."

According to the authors, internal audit departments must be adequately staffed and managed to be effective (Al-Twaijry, Brierley, and Gwillian, 2003). To fulfill the mission of an IA unit, its workers must have the enlightenment, training, and skills necessary to undertake the complete variety of audits that are expected to be performed. In auditing, it is defined as the degree of perfection in audit work that is often reached when audits are performed by International Auditing Standards (IA). The internal location and reporting structures of the IA department make it feasible to speak about the quality, state, process, and condition of being independent inside an organization due to their internal location and reporting structures. According to BouRaad (2000), the strength of a department is indicated by the degree of independence it has from management and operational operations inside the organization. Moving one's career ahead entails various activities such as studying, working, and participating in many other elements of one's professional life. A gain in social standing, a promotion at work, or a raise in a person's position may all be indicators of their professional success. According to Goodwin (2003), organizations worldwide are increasingly turning to internal audit as a training ground for future management employees rather than depending on professional auditors to staff the department. The organization intends to develop more well-rounded senior executives via the use of this strategy. Top-level support at a firm is deemed to have been received by employees if upper-level management actively approves, encourages, and assists them in their endeavors (Fernandez and Rainey, 2010). The study relies on the current literature of Anh et al. (2020), Alzeban and Gwilliam (2014), and Gamayuni (2018) to ascertain the measures

internal audit effectiveness. The next sections or paragraphs provide a conceptual review of selected drivers such as audit independence, audit competency, and control environment.

Independence of Internal Auditors

Organizational independence is the situation, circumstance, eminence, or procedure of being autonomous through the audit unit's organizational assignment and reportage lines. Independence here signifies individuality of mind and appearance of the audit employee. Independence has no single definition and interpretation, leading to many ambiguities and misinterpretations (Wines, 2012). Nonetheless, independence for this study connotes being free mentally and physically from any management influence, especially in all the audit processes. Independence is affected if internal auditors commence the audit planning effectively but compromise on their findings. The key phrase in this definition is thus, being free from management influence in all the audit processes. Independence correlates with the reliability of internal auditors' reports. As Wines (2012) rightly posited, the assurance services offered by internal auditors derive their value and credibility from the fundamental postulate of independence of mind and appearance. The prevalence of independence connotes internal auditors discharging their work with a high degree of objectivity, integrity, impartiality, and being free from issues on conflict of interest. International Internal Auditing Standards state that independence is the opportunity from conditions that undermine the capacity of the inner review movement to carry out inside review duties in an impartial way.

Cohen and Sayag (2010) conclude that organizational independence will increase the internal auditor's effectiveness. It both lessens the conflict between loyalty to the

employer and specific managers and gives internal auditors a supportive work environment. Independence of the internal auditor's increases independence of internal audit function and efficiency (Cohen and Sayag, 2010). Internal auditors are integrities and committed to making unbiased opinions in every circumstance, and every auditor must have independence in doing audit works. Without independence, internal review essentially becomes a portion of the administration group, losing its capacity to offer a new point of view (Alzeban and Gwilliam, 2014). Alzeban and Gwilliam (2014), Cohen and Sayag (2010), and Gamayuni (2018) consider the independence of internal auditors as a determinant of internal review adequacy.

Competence of Internal Auditors

Alzeban and Gwilliam (2014) postulate that audit competence is one of the critical determinants of the effectiveness of the internal audit. ISPPIA Standard 1210 argued that internal auditors' skills and knowledge or technical know-how determine how effective audit procedures in an organization will be. Indeed, internal auditors need to have the requisite knowledge, skills, professional education and certifications, and experience to add value to organizational operations or performance (Ali and Owais 2013). Auditors' competencies are also possibly essential and are considered by external auditors to decide their dependence on inside review work (Al-Tawaijry et al., 2004). Skilled auditors can supply exhortation to progress the internal control framework to total reviews, discover reliable arrangements based on past encounters, and bargain with complex and clashing circumstances (Abdolmohammadi, 2009).

Also, internal auditors require extraordinary interpersonal abilities in communication, influence, collaboration, and essential thinking to fulfill their obligations (Fanning and

Piercey 2014) viably. Moreover, external auditors utilize competencies as a critical measure to assess internal review execution (Al-Twaijry et al., 2004; Abbass and Aleqab, 2013). Past research proposes that the competence of internal auditors may be an essential determinant of internal review adequacy (Al-Matarneh, 2011). Al-Twaijry et al. (2004) famous that the satisfactory level of competencies of internal review staff in terms of preparing, involvement, information, and proficient capabilities positively impact the effectiveness of the internal review. Similar results were obtained in other studies conducted in Malaysia (Ahmad et al., 2009) and South Africa (Van-Staden and Steyn, 2009). Besides, Ziegenfuss (2000) positioned the auditor instruction levels, the staff encounter, the percent of certified staff, and the training hours per internal auditor are among the foremost vital inputs of the internal audit execution. In addition, Abdolmohammadi (2009) has illustrated that certified internal auditors comply with the ISPPIA in Anglo-Saxon nations. Other studies propose that the need for internal auditors' competence is a deterrent to the viability of internal review in some African countries such as Ethiopia, Ghana, and Kenya (Onumah and Yao Krah, 2012).

Control Environment

The control environment is fundamental for all the other components of internal audit. This component bargains with the activities, approaches, and methods that reflect the general demeanor of the best administration of the organization. It is the basic premise of all the other components of an internal audit. For the control environment to be viable, first and foremost, the moral benchmarks and astuteness ought to be reasonable by beating official officers in conducting the operations of the trade over budgetary detailing. Besides, internal controls issues ought to be suitable by the administration,

and there ought to be legitimate adherence to monetary detailing. The administration philosophy ought to be in line with the organization's operations (COSO (2013). Additionally, the structures within the company must be in line with operational exercises in arrange to attain viability of controls within the environment Onumah et al., 2012). Also, the organization should have the knowledge and experienced personnel in reporting and detecting oversight duties. Lastly, arrangements and activities on the advancement of human assets must be executed and created to help internal control adequacy over financial reporting (Onumah et al., 2012; and COSO, 2012, 2013).

2.4 Empirical Review

Because the researcher sought to examine the determinants of internal audit effectiveness within a construction firm, divergent topics and recommendations relating to this study are herein presented and analyzed. The empirical research focuses on the aspect enumerating the significant determinants of internal audit effectiveness on internal auditor independence, competence, and control environment.

Below are some of the extant works of literature on internal audit effectiveness.

Ahmad et al. (2016) explore internal and external factors that influence internal audit department effectiveness in Malaysian local authorities. Ahmad et al.'s (2016) results reveal that independence, competency, professionalism, coordination between internal and external auditors, top management support positively influences the effectiveness of the internal audit. Another study by Dellai and Omri (2016) in Tunisia reveals that objectivity, independence, management support, and the sector of the organization influence internal audit effectiveness. Furthermore, Salehi's (2016) study found that the

competency of internal audit staff, size of the internal audit department, communications between internal auditors and external auditors, management's support for internal audit department, and independent (outsourced) internal audit affect internal audit effectiveness.

Donaldson and Davis (2011) used stewardship theory and agency theory on governance, stockholder return, and CEO incentive. They found that an independent CEO and dual CEO-Chair affect internal audit and risk management practices. Also, the study carried out by Ahmad et al. (2009) on the effectiveness of internal controls of companies in Malaysia found that insufficient auditors were a major challenge in implementing effective internal controls.

Alzeban and Gwilliam (2014) assess factors influencing internal audit effectiveness and find that the competence of the internal audit department, size of the internal audit department, the relationship between internal and external auditors, management support for internal auditing, and independence of internal auditing; are the main determinant of audit effectiveness Cohen and Sayag (2010) report similar results and find that professional proficiency of internal auditors, quality of audit work, organizational independence, career and advancement, and top management support are the determinant of internal audit.

Moreover, George, Theofanis, and Konstantino's (2015) assessment on internal audit effectiveness in Greece reports the five key internal audit factors: internal audit quality, audit committee, the competence of internal audit team, and independence of internal audit, and management support for internal auditing. In Ghana, Tackie et al.'s (2016)

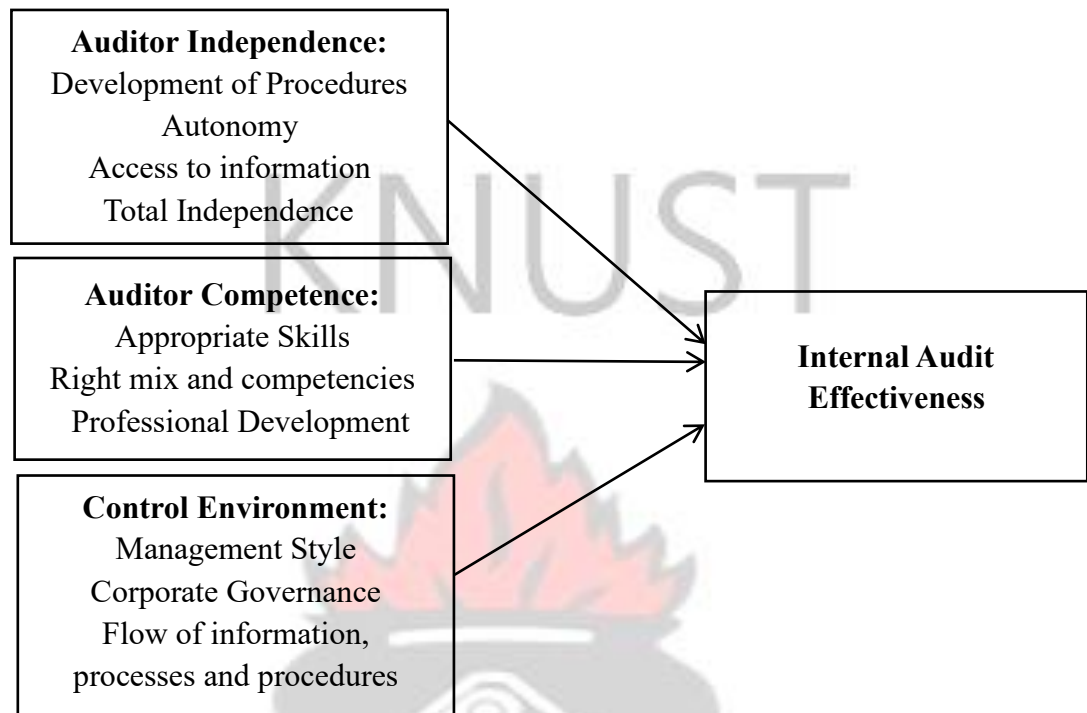
found that professional ability, organizational independence, and career advancement have a statistically significant positive relationship. Still, top management does not affect internal audit effectiveness. Also, Onumah and Yao Krah's (2012) study in Ghana reports that lack of professional proficiency, management support, and weak audit committees reduce internal audit effectiveness. Finally, the Awuah et al. (2015) study in Ghana found that auditors' objectivity and competence positively affect internal audit effectiveness. However, they found an inverse nexus between information technology and the effectiveness of the internal audits. The above extant literature on the drivers contributing to internal audit effectiveness shows inconsistent or contradictory outcomes. This present study relies on or adapts prior scholars' determinants of internal audit effectiveness to explore whether audit competence, audit independence, and control environment affect internal audit effectiveness at SSCL in Ghana.

2.5 Conceptual Framework

Figure 2.1 shows the network between the dependent (internal audit effectiveness), and independent variables (audit independence, audit competence, and control environment).

Based on stakeholder and institutional theories, this study adds to the existing literature by investigating whether internal auditor independence and competence and control environment influence internal audit effectiveness in Ghana using Space Schedulers Company Limited (SSCL)) as a case study.

Figure 2.1: Conceptual Framework



Source: Author's Construct (2023)

Following the conceptual framework of prior studies, this research employs the measuring instruments of Alzeban and Gwilliam (2014), Cohen and Sayag (2010), Gamayuni (2018), and Salehi (2016) to examine the drivers of internal audit effectiveness in the construction sector in Ghana. As stated earlier, the dependent variable is internal audit effectiveness, and the independent variables are the independence of internal auditors, the competence of internal auditors, and the control environment.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the methods employed to achieve the objectives of the study. The Chapter discusses the research design, the population, sample and sampling techniques, data collection procedures, data analysis, models and measures, ethical consideration, and validity and reliability of data.

3.2 Research Design

This study uses descriptive and explanatory research design to conduct the research. The study uses a descriptive research design because the study wants to provide information on a population or phenomenon about the objectives (Pallant, 2010). Also, explanatory research is employed to examine the causal effect between the dependent variable (internal audit effectiveness) and independent variables (audit independence, audit competence, and control environment).

Also, the study uses a case study approach to have an in-depth inquiry to investigate the internal audit effectiveness at the construction sector using Space Schedulers Company Limited (SSCL). This study uses quantitative analysis to achieve the objectives or answer the research questions analytically. Saunders, Lewis, and Thornhill (2009) argue that quantitative studies provide empirical evidence of the relationship between dependent and independent variables. Finally, the study adopted cross-sectional data using primary data to solicit responses to find answers to the research questions slated for the research.

3.3 Population of the Study

Saunders et al. (2009) define a population as the entire collection of elements about which inferences are made. The target populations for the study comprised administrative staff and Management of Space Schedulers Company Limited (SSCL), Ghana. However, the study focuses on staff involved in auditing procedures across the eleven units at SSCL. Thus, the target population for the study is limited to eightyfive (70) respondents from the internal audit, finance, general management, and planning, monitoring, and evaluation.

3.4 Sample and Sampling Techniques

The suggested minimum sample size of 70 respondents is derived using the DeVaus (2002) formula, which is as follows:

$$n = \frac{N}{1 + N(a)^2}$$

Where: n = sample size, N = population (70 respondents) and a = the confidence level (5 per cent). The breakdown is calculated as follows:

$$n = \frac{85}{1 + 85(0.05)^2}$$

$$n = \frac{85}{1 + 85(0.0025)} \quad n = \frac{85}{1 + 0.2125}$$

$$n = \frac{80}{1.2125} = 70.10$$

The purposive approach is being used as the criterion for selecting candidates. According to Zikmund et al. (2013), probability sampling is a strategy in which the sample units are chosen based on human judgment or convenience rather than random selection.

3.5 Sources and Data Collection Instruments

The study's main data source is a primary data source. The study used a questionnaire as a data collection instrument to get the primary data for analysis. The questionnaire is deemed an advantageous method for the collection of preliminary data. The questionnaire has the advantage of being a low-cost option and allows research participants to think about questions. Also, the questionnaire enables the researcher to get adequate and accurate information from respondents to assess critical drivers of internal audit effectiveness at SSCL. The questionnaire instrument uses different scales, including a five-point scale, consenting respondents to decide whether they disagree or agree on the perceived statements of the variables used for the study. The questionnaire is in three main sections. The first section contains questions on the demographic characteristics, and the second section provides the perceived statements on the factors that affect internal audit effectiveness. The last section offers the perceived views on internal audit effectiveness (dependent variable).

3.6 Data Analysis

To ensure easy analysis, the questionnaires were coded according to each variable of the study. The study uses both descriptive and inferential statistics on the retrieved responses of the questionnaires using STATA (version 15) for analysis. Depending on the nature of the data collected, the following statistical techniques have been applied; percentage analyses, descriptive analysis, regression, mean, standard deviation, and Pearson correlation coefficient.

3.7 Model Specification

Regression analysis is done to provide statistical significance in terms of the relationship that exists between the independent and dependent variables. The study uses Ordinary least squares (OLS) multiple regression to estimate the relationship between the three (3) determinants identified in the literature (the independent variables) and internal audit effectiveness (the dependent variable). The model below shows the relationship between internal audit effectiveness and auditing determinants used in this study.

$$\text{Internal Audit Effectiveness} = \delta_0 + \delta_1 \text{Audit Independence} + \delta_2 \text{Audit Competence} + \delta_3 \text{Control Environment} + e \dots \dots \dots (1)$$

In measuring the internal audit effectiveness, audit independence, audit competence, and control environment, the study adapts the measurement instruments or perceived statement of Alzeban and Gwilliam (2014), Gamayumi (2018), Onumah et al. (2012), and Salehi (2016) The Sections B and C of Appendix show the adapted perceived statements used to measure each of these variables.

3.8 Reliability and Validity

According to De Vaus (2013), reliability and validity are the two factors that every researcher should be concerned about when designing a study, analyzing results, and judging the quality of a study. Reliability shows the likelihood that a given measurement technique will repeatedly yield the exact description of a given phenomenon. On the other hand, the term validity refers to the extent to which a measure reflects the concept it is tended to measure. Validity is taken into consideration in this study. A thorough literature review in the study area is conducted, which has enabled theories and the question items to be identified.

Concerning the reliability of the research instrument, the questionnaires were pretested before administration to facilitate easy tabulation and analysis. The pre-test was conducted in 10 internal audit units. The purpose was to test for the significance of the items in the questionnaires. It was also to determine the reliability of the rating scales used for the study. Even though this reliability is sufficient, a few items which were found to be misleading were modified for clarity and accuracy, and others were deleted to standardize the instrument. Responses were cross-checked on the field to ensure the quality of the data. Also, the internal consistency reliability of the study constructs was measured using Cronbach Alpha analysis. The Cronbach reliability test for the questions on the dependent and independent variables recorded a value of 0.892. Cohen and Sayag (2010) posit that Cronbach's Alpha value greater than 0.700 is very acceptable. Hence, the measures of the study are reliable, and there is minimal bias or error in the data.

3.9 Ethical Consideration

The study considers some ethical concerns that are necessary for its completion. Participants are fully informed about the purpose of the study, and their responses are used for academic purposes to provide recommendations or implications for stakeholders in the construction sector. Respondents were informed that the information they will provide is kept strictly secret and will only be used for research purposes. To this end, the researcher respected the respondents' rights to anonymity and privacy by ensuring that their informed consent was gained. The researcher has also taken steps to guarantee that the information gathered is not exposed to other parties who may not utilize it for the intended purpose.

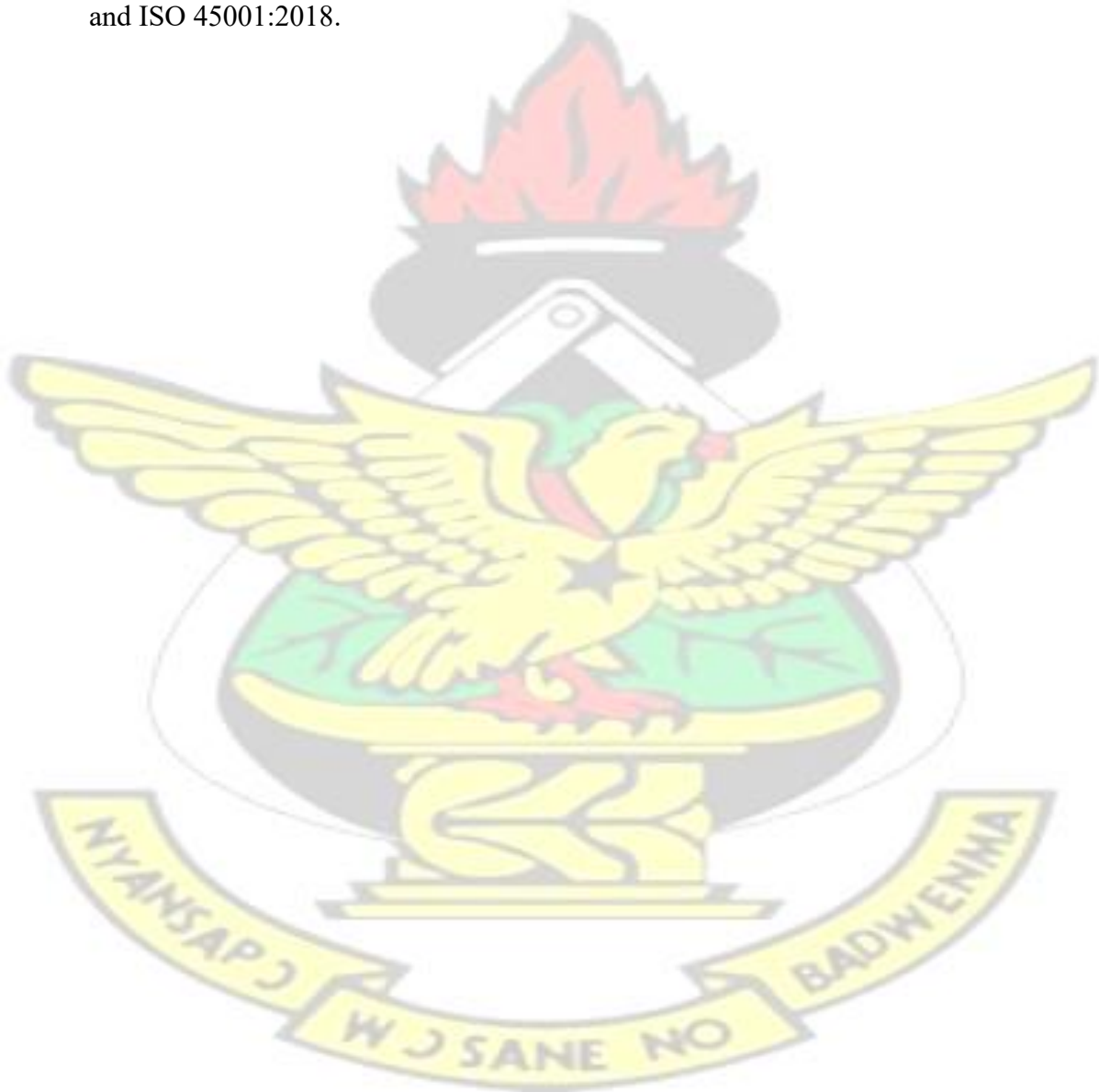
3.10 Profile of Space Schedulers Company Limited

Space Schedulers Company Limited is a company registered under the business registration ACT of Ghana registration number CS756142015. We are a company providing Facility management, Project management and Architectural Services to Ghanaians and beyond. The founders of the company share a passionate interest in adding value to the industry in a significant and sustainable way. Our team of highly professional and vastly experienced personnel exist to render differentiated services that focus on modern industry trends to bring about sustained value and long term reliance. Our team demonstrate international know-how in facilities management, architectural, engineering design and construction.

The company's vision is to manage, design, build and provide innovative solutions to the life cycle of the built environment and infrastructure. Also, the mission is to provide solutions that are client and context sensitive, with equal regard to factors such as budget, operational efficiency, ensuring value for money, preventive maintenance, aesthetics, responsiveness to environment and compliance. Additionally, the company wants to be at the forefront of the Industry through commitment to providing efficient service that delights customers, ensuring value for money, we promise accountability and responsiveness as well as incorporate exceptional aesthetics with unwavering functional, operational, schedule, budgetary, and environmental concerns.

Space Schedulers Company Limited has extensive experience in non-core services outsourcing and delivery of business support services. We provide Facilities

Management with the capacity and skill to support large complex portfolios as well as specialized services for businesses requiring customised Facilities Management services. Our Facilities Services include Strategic Facility Planning, Operation and Maintenance, and Architectural Services, Project Management and Construction. Space Schedulers Company Limited aided Sandvik Mining and Construction Ghana Limited in achieving ISO Certifications in 2019 ie. ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018.



CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presents the results for discussion to achieve the study's objectives. The study uses STATA Version 15 to analyze the responses of 70 respondents or a sample for discussion. The chapter begins by presenting and discussing the characteristics or demographics of the respondents, followed by descriptive statistics, including correlation and other reliability test results. The chapter finally discusses the regression results for discussion.

4.1 Sample Statistics

The study presents the descriptive statistics (frequencies and percentages) on the sample demographics such as gender, age, educational background, professional qualification, units, and working experiences.

4.1.1 Gender

From Table, out of the 70 respondents, 64% ($n = 45$) are males, and the remaining respondents are females ($n = 25$), representing 36%. The result proposes that the males dominate the construction sector working in the audit, finance, general management, planning, monitoring, and evaluation units at Space Schedulers Company Limited (SSCL).

Table 4.1: Gender

	Frequency	Percent	Cumulative Percent
Male	45	64	64
Female	25	36	100
Total	60	100	

Source: Field Survey (2023)

4.1.2 Age

Table 4.2 presents the age range for the sample used for the study. The result indicates that most respondents are within 31 to 40 years ($n = 23$, 33 percent). The age group within 41 to 50 years followed with 19 respondents representing 27 percent, and those aged 18 to 30 ($n = 18$) representing 25 percent. Also, only six of the sample representing nine percent, are within 51 to 60 years, and four representing six percent are members on retirement but on contract at the construction firm. These results indicate that SSCL has younger staff over the elderly labor force.

Table 4.2: Age Groups

Years	Frequency	Percent	Cumulative Percent
18 – 30	18	25	25
31 – 40	23	33	58
41 – 50	19	27	85
51 – 60	6	9	94
Above 60	4	6	100
Total	70	100	

Source: Field Survey (2023)

4.1.3 Educational Background

From Table 4.3, the result indicates that most of the sample representing 53 percent, has bachelor's degrees ($n = 37$). 20 out of 70 respondents representing 29 percent have a diploma or higher diploma certificates. Master degree holders record 10 respondents representing 14 percent, and only three respondent has a doctorate representing 4 percent. The result suggests that the sample used to describe the SSCL staff is highly educated because over 70% have Bachelor's, Master's, and Doctorate Degrees.

Table 4.3: Education

	Frequency	Percent	Cumulative Percent
Diploma/HND	20	29	29
Bachelor's Degree	37	53	82
Master's Degree	10	14	96
Doctorate Degree	3	4	100
Total	70	100	

Source: Field Survey (2023)

4.1.4 Professional Qualification

The result in Table 4.4 indicates that 87 percent of the respondents do not have any professional qualification from the Institute of Chartered Accountant, Ghana (ICAG), Association of Certified Accountants (ACCA), or Certified Professional Internal Auditors (CPIA). However, nine respondents (13 percent) have Chartered Accountants: six are members of ICAG, and three are members of ACCA.

Table 4.4: Professional Qualification

	Frequency	Percent	Cumulative Percent
ICAG	6	9	9
ACCA	3	4	13
CPIA	0	0	13
None	61	87	100
Total	70	100	

Source: Field Survey (2023)

4.1.5 Department

For the number of respondents working at various units, 29 representing 41 percent, are working within finance department, followed by the general management units (n = 20, 29 percent), internal audit (n = 11, 16 percent), and the planning, monitoring, and evaluation (n = 10, 14 percent).

Table 4.5: Department

	Frequency	Percent	Cumulative Percent
Internal Audit	11	16	16
Finance	29	41	57
General Management	20	29	86
Planning, monitoring, and evaluation	10	14	100
Total	70	100	

Source: Field Survey (2023)

4.1.6 Working Experience

In terms of the working experiences of the sample, the result in Table 4.6 shows that the majority of the respondents ($n = 20$), representing 29 percent, have 11 to 15 working experiences at SSCL. Those with 6 to 10 years of working experience followed with 26 percent, followed by 16 to 20 years of working experience ($n = 13$, 19 percent). The study shows that respondents with working experiences below five years are 16 percent and those with over 20 years of experience are 10 percent. The result suggests that the SSCL has staff that have enough industrial and managerial experiences.

Table 4.6: Working Experience

Years	Frequency	Percent	Cumulative Percent
Below 5	11	16	16
6 – 10	18	26	42
11 – 15	20	29	71
16 – 20	13	19	90
Above 20	8	10	100
Total	70	100	

Source: Field Survey (2023)

4.2 Descriptive Statistics of Variables

The study presents the descriptive statistics (mean and standard deviation) for each of the variables used for the analysis. The study uses a 5-point scaling indicator where one corresponds to strongly disagree, and five corresponds strongly agree.

4.2.1 Descriptive Statistics for Independence

Table 4.7 presents the descriptive statistics for the internal auditor independence. The result shows that the mean score of all the perceived statements is more than four, indicating that the respondents agree. The respondents agree that the internal audit staff does not perform other functions that are not auditing issues (mean = 4.44, SD = 0.86). Also, the respondents agree that in SSCL, there is no conflict of interest during the internal audit activities (mean = 4.39, SD = 0.99). Furthermore, the internal audit unit directly links with the top management of the board council other than the finance officer at the construction firm (mean = 4.38, SD = 0.99).

In addition, the sample also agrees that the internal auditors have access to all information within the construction firm (mean = 4.34, SD = 1.04), and the head of internal audit directly links the board chairman, CEO, top management, or council members of the construction firm (mean = 4.24, SD = 1.11). Similarly, the management of the construction firm does not interfere with the works of internal audits (mean = 4.21, SD = 1.13), and the head of internal audit reports to top management and provide internal auditors the chance to fulfill their obligations at the construction firm (mean = 4.14, SD = 1.00). Finally, the respondents agree that the internal auditors are independent in performing their professional duties and responsibilities at the construction firm (mean = 4.14, SD = 1.21).

Table 4.7: Descriptive Statistics – Independence

STATEMENTS	Mean	SD	Min	Max
Internal auditors are independent in performing their professional duties and responsibilities. ^a	4.14	1.21	1	5
The head of internal audit reports to top management ^b within the construction firm and provides internal auditors the chance to fulfill their obligations. ^e	4.14	1.00	1	5
The head of internal audit directly links the board chairman, CEO, top management, or council members of the construction firm.	4.24	1.11	1	5
The internal audit unit directly links with the top management of the board council other than the finance officer.	4.38	0.99	1	5
No conflict of interest exists during the activities of the internal audit.	4.39	0.99	1	5
Management of the construction firm does not interfere with the works of internal audits.	4.21	1.13	1	5
The internal auditors have access to all information within the construction firm.	4.34	1.04	1	5
The internal audit staff does not perform other functions that are not auditing issues.	4.44	0.86	1	5
Average Score ^s	4.29	0.74	1	5

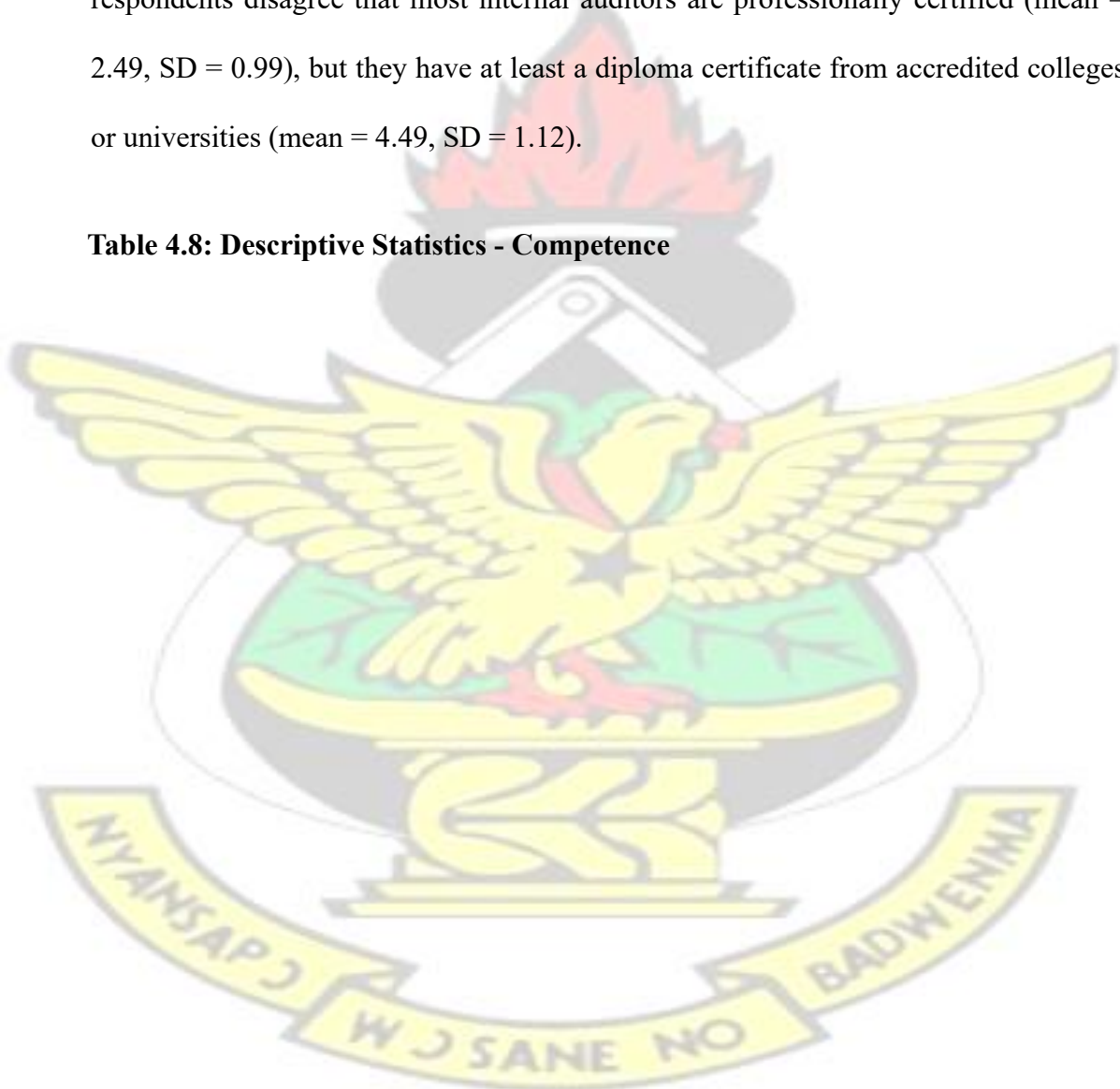
Source: Field Survey (2023)

4.2.2 Descriptive Statistics for Competence

Table 4.8 presents the descriptive statistics for the internal auditor competence. The result shows that the mean score of all the perceived statements is more than four, indicating (except the statement on professional certification). This show that the

respondents agree that the internal auditors are proactive on current local and global audit and financial reporting standards (mean = 4.67, SD = 0.97), and most auditing staff in the construction firm have practiced or worked in the auditing field for more than two years (mean = 4.64, SD = 0.96). Also, the respondents agree that internal auditors at the construction firm regularly attend educational sessions and seminars on auditing issues for continual training (mean = 4.55, SD = 0.97). However, the respondents disagree that most internal auditors are professionally certified (mean = 2.49, SD = 0.99), but they have at least a diploma certificate from accredited colleges or universities (mean = 4.49, SD = 1.12).

Table 4.8: Descriptive Statistics - Competence



STATEMENTS	Mean	SD	Min	Max
Most of the internal auditors are professionally certified. T	2.49	0.99	1	5
Most internal auditors have at least a diploma certificate a from accredited colleges or universities. b	4.49	1.21	1	5
Internal auditors at the construction firm regularly l attend educational sessions and seminars on auditing e issues for continual training.	4.55	0.97	1	5
Internal auditors are proactive on current local and global audit and financial reporting standards.	4.67	0.97	1	5
Most of the audit staff in the construction firm have practiced or worked in the auditing field for more than two years. Average Score	4.64	0.97	1	5
	4.17	1.02	1	5

S

Source: Field Survey (2023)

4.2.3 Descriptive Statistics for Control Environment

Table 4.9 presents the descriptive statistics for the control environment variable. The results show that the respondents strongly agree that the management recognizes and exercises oversight duties over financial reporting and internal controls (mean = 4.61, SD = 0.61). The construction firm has established ethical values and integrity systems (mean = 4.58, SD = 0.67). Also, the respondents agree that human resource strategies and procedures have been established (mean = 4.51, SD = 0.85), and top managers and employees are assigned to acceptable levels of responsibility and authority (mean = 4.48, SD = 0.85). Also, the structure of the construction firm, assignment of authority, and responsibilities are in line with its internal controls (mean = 4.39, SD = 0.98).

Table 4.9: Descriptive Statistics – Control Environment

STATEMENTS	Mean	SD	Min	Max
------------	------	----	-----	-----

Ethical values and integrity have been established T	4.58	0.68	4	5
and complied with by top managers and council a				
members in the conduct of financial reporting.				
Management recognizes and exercises oversight S	4.61	0.61	4	5
duties for financial reporting and other internal o				
controls issues.u				
r	4.42	0.86	1	5
The ideologies of top managers or council members c				
and the style of operationse support internal controls				
: measures.	4.39	0.98	1	5
F				
The structure of the i construction firm, assignment of				
authority, and responsibilities are in line with its e	4.48	0.85	1	5
internal controls. ¹ d				
Top Managers and employees are assigned to	4.51	0.85	2	5
acceptable levels oS f responsibility and authority				
u				
Human resource sr strategies and procedures have				
been v	4.49	0.40	3	5
established to facilitate internal controls over e				
financial reporting.y				
Average Score(

4.2.5 Descriptive Statistics for Internal Audit Effectiveness

Table 4.10 presents the descriptive statistics for the dependent variable (internal audit effectiveness). The results show that the respondents agree that internal auditors perform financial and economic audits (mean = 4.39, SD = 0.89). They regularly follow-up issues raised and scrutinize actions taken to correct the problems (mean = 4.38, SD = 0.89). Also, internal auditors review all audit issues and determine the annual audit plan (mean = 4.32, SD = 1.01), respond in writing on matters raised in the audit procedures, and submit appropriate documents to management at the construction

firm (mean = 4.26, SD = 0.99). Finally, the result in Table 4.10 implies that the internal audit's financial and other areas reviewed and audited are significant to the construction firm (mean = 4.21, SD = 0.99).

Table 4.10: Descriptive Statistics – Internal Audit Effectiveness

STATEMENTS	Mean	SD	Min	Max
The internal audit's financial and other areas T reviewed and audited are significant to the a construction firm . b	4.21	0.99	1	5
Internal auditors perform other activities like evolving l financial processes and conducting financial and economic audits.e	4.39	0.89	1	5
Internal auditors review all audit issues and determine annual audit plan for the construction firm.	4.33	1.01	1	5
The internal audit responses on matters raised in the audit procedures and submit appropriate documents to management in writing for assessment.	4.26	0.99	1	5
Internal audit staff regularly follow-up issues raised and scrutinize actions taken to correct the issues.	4.38	0.88	1	5
Average Score	4.31	0.95	2	5

4.3 Correlations And Multicollinearity Tests

The study uses a Pearson correlation matrix to determine the correlations and ascertain whether there is collinearity or multicollinearity among the variables. Also, the study reports the Cronbach Alpha and Variance Inflation Factor (VIF) between the variables used in the study. Table 4.11 reports the Pearson correlation, Cronbach Alpha, and the VIF among the variables. Prior researchers assert that there are issues of bias or multicollinearity among two variables if the r-value of the Pearson correlation matrix is greater than 0.70. The result in Table 4.11 shows that the variables' greatest r-value

is the correlation between internal audit effectiveness and control environment (r-value = 0.56). The result implies there is no issue of multicollinearity, and the variables are reliable. Also, the study records Cronbach Alpha greater than 0.70 for independence, competence, internal control environment, and internal audit effectiveness. Extant literature postulated that Cronbach Alpha more than 70% is acceptable, and thus, the study's data is reliable and valid. Further, all the variables VIF is less than 4, indicating that the variables are valid and can predict internal audit effectiveness.

Table 4.11: Pearson Correlations, Cronbach Alpha and VIF

	1	2	3	4	Alpha	VIF
1. IAE	1.000				0.837	2.36
2. CONE	0.560	1.000			0.881	2.97
3. COMP	0.318	0.312	1.000		0.857	2.89
4. INDE	0.296	0.112	0.341	1.000	0.877	3.16

Key: IAE = Internal Audit Effectiveness, CONE = Control Environment, COMP = Competence, INDE = Independence

Significant levels: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.1

4.4 Regression Results

4.4.1 Model Results

The Ordinary Least Square (OLS) regression model is used to investigate the relationship between internal auditor independence, competence, control environment, and internal audit effectiveness using data from Space Schedulers Company Limited (SSCL). The results for the model in Table 4.12 report an R-squared score of 0.51, and the probability of models significance is less than 1% ($p = 0.0001$). These results show a variation of 49% of other variables not included in the regression models. However, the model's significant power (Probability > F = 0.0001) indicates some relevant independent variables that drive internal audit effectiveness at SSCL.

Table 4.12: Regression results

Variable	Coef. (β)	Std. Err.	t	p-value
Independence	0.235	0.201	1.17	0.214
Competence	0.354	0.105	3.37	0.001
Control Environment	0.615	0.142	4.33	0.000
_Cons	0.514	0.465	1.11	0.226
Number of Obs	70			
Prob > F	0.0001			
R-squared	0.51			
Adjusted R-squared	0.47			
F (3, 66)	9.36			
Root MSE	0.58			

Source: Field Survey (2023)

From Table 12, the result shows that independence ($\beta = 0.235$, $p\text{-value} = 0.214$) does not significantly affect internal audit effectiveness at the SSCL. However, the internal

auditor's competence significantly affects ($p < 0.05$) internal audit effectiveness ($\beta = 0.354$, $p\text{-value} = 0.001$). Similarly, the control environment ($\beta = 0.615$, $p\text{-value} = 0.000$) influences internal audit effectiveness at SSCL.

4.4.2 Discussion of Results

Independence and Internal audit effectiveness

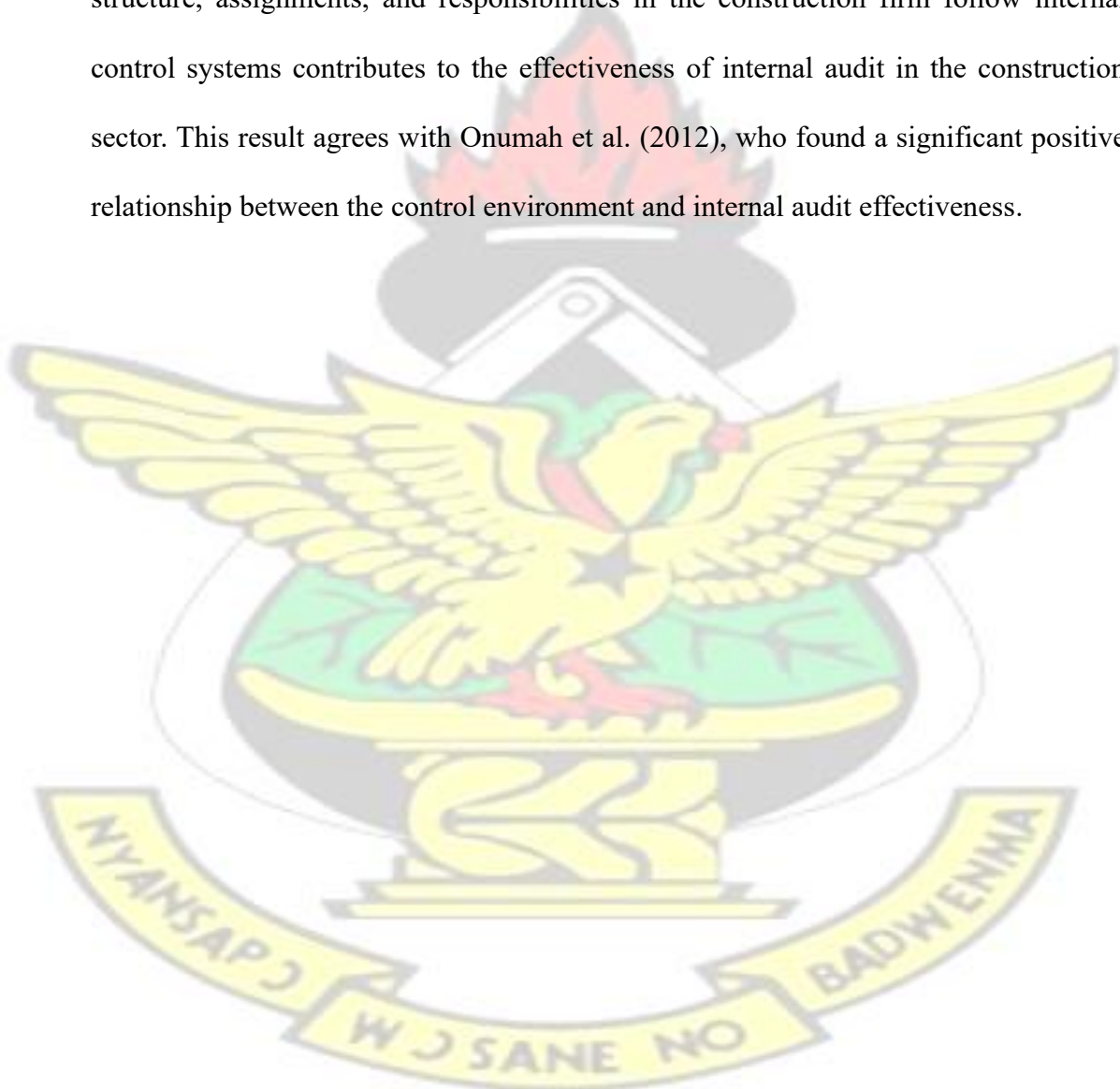
From Table 4.12, the study reports positive coefficient for independence ($\beta = 0.235$) but insignificant at 5% probability level ($p > 0.10$). Though the result shows about 24% increment of internal audit effectiveness if internal auditors are independent; however this is not significant. Thus, the independence of internal auditors does not influence internal audit effectiveness in the construction sector in Ghana. The result disagrees with existing studies (Ahmad et al., 2016; Dellai and Omri, 2016; Donaldson and Davis, 2011; George et al., 2015; and Tackie et al., 2016).

Competence and Internal audit effectiveness

Moreover, the results for internal auditor competence record a positive coefficient ($\beta = 0.354$) and significant at 1% probability level ($p = 0.001$). The study implies that internal auditors' competence influences internal audit effectiveness at Space Schedulers Company Limited (SSCL). Thus, internal auditors' professional skills, certification, training, competencies, and professional development increase the effectiveness of internal audits at SSCL by 35%. The result agrees with existing studies that found a positive relationship between competence and internal audit effectiveness (Ahmad et al., 2016; Awual et al., 2015; Alzeban and Gwilliam, 2014; Cohen and Sayad, 2010; and George et al., 2015).

Control Environment and Internal Audit Effectiveness

In terms the control environment, the study records a significant positive relationship ($\beta = 0.615$, $p\text{-value} = 0.000$) between internal audit effectiveness. The result shows a 62% increase in internal audit effectiveness when SSCL controls control systems. The result implies that if there are systems that adhere to ethical values and integrity of officers, management recognizes oversight duties for financial reporting and control issues influences internal audit effectiveness. Also, when the ideologies, strategies, structure, assignments, and responsibilities in the construction firm follow internal control systems contributes to the effectiveness of internal audit in the construction sector. This result agrees with Onumah et al. (2012), who found a significant positive relationship between the control environment and internal audit effectiveness.



CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

5.1 Introduction

The chapter summarizes the findings based on the study's objectives; provides a conclusion and recommendations of the study.

5.2 Summary of Findings

This study examines whether the independence of internal auditors, the competence of internal auditors, and control environment influence internal audit effectiveness at Space Schedulers Company Limited (SSCL). The study employs a case study using descriptive, explanatory, and quantitative research designs to answer the research questions or achieve the research objectives. The following paragraphs summarize findings based on the study's quantitative analysis.

5.2.1 Independence and Internal Audit Effectiveness

The first objective is to examine the effect of internal auditor independence on internal audit effectiveness in the construction sector using SSCL as a case study. The study results show that the independence of internal auditors does not impact or influence internal audit effectiveness at SSCL. However, the descriptive result shows that the respondents agree there is no conflict of interest during the internal audit activities. The internal audit unit directly reports to the top management of the board council other than the finance officer at the construction firm. Also, the respondents agree that the internal auditors have access to all information, and the construction firm's management does not interfere with the works of internal audits. Finally, the internal auditors are independent in performing their professional duties and responsibilities at the construction firm.

5.2.2 Competence and Internal Audit Effectiveness

The second objective also examines the impact of internal auditors' competence on the internal audit effectiveness of SSCL. The study finds that internal auditors' competence positively relates to internal audit effectiveness in the construction sector in Ghana. Therefore, internal auditors having the professional skills, certification, training, competencies, and professional development positively affect the effectiveness of internal audits at construction firms in Ghana.

5.2.3 Control Environment and Internal Audit Effectiveness

The final objective is to examine the impact of the control environment on internal audit effectiveness in the construction sector using SSCL as a case study. The study results show that the control environment positively and significantly affects the effectiveness of internal audits at Space Schedulers Company Limited. The result implies that a construction firm with control systems with observed ethical values and integrity contributes to internal audit effectiveness. Also, an environment where management recognizes oversight duties for financial reporting and control issues influences internal audit effectiveness. When the ideologies, strategies, structure, and responsibilities follow internal control systems positively increases internal audit effectiveness.

5.3 Conclusion

Internal auditing remains a neglected area of study despite its significant component of corporate governance, particularly in the wake of the spate of financial mismanagement in the private sector. Surprisingly, most prior studies on internal audit effectiveness on the performance of private sector entities have produced mixed and conflicting results, and currently are no unified drivers of internal audit effectiveness and performance in the private sector institutions. This study adds to the international debate on private

sector auditing by examining internal auditor independence, internal auditor competence, and control environment that affects internal audit effectiveness using SSCL as a case study. The study used 60 respondents from the SSCL across various units directly related to auditing procedures and employs the Ordinary Least Square (OLS) model and other statistical analyses to achieve the study's objectives. The study finds that the independence of internal auditors does not affect internal audit effectiveness at SSCL. However, the study finds that internal auditors' competence and control environment positively and significantly affect SSCL internal audit effectiveness. Thus, the study concludes that the efficiency of private sector audits in Ghana is a result of internal audit competencies and control environment systems.

5.4 Recommendations

Based on the study's findings, the study recommends the following implications to relevant stakeholders. First and foremost, the study reports a positive and significant nexus between internal auditors' competence and internal audit effectiveness. Therefore, the study recommends that management in construction firms motivate and have financial support for internal auditors to have the professional skills and training on international auditing or financial standards. Also, internal auditors are encouraged to be professionally certified accountants in evaluating auditing issues at the construction sectors in Ghana.

Secondly, even though the study reports an insignificant relationship between internal audit independence and internal audit competencies, the study recommends that stakeholders such as directors, supervisors, and other top management at the construction firm allow internal auditors to perform their professional obligations

without fear independently to increase internal audit effectiveness. Internal auditors at the construction firm should have access to information at all times, and managers should not interfere with the duties of internal auditors.

Thirdly, there should be proper training and education on modern technology or computerized accounting systems that can help internal auditors detect financial omissions, monitor risk, and ensure adequate internal controls environment systems. The availability of resources would enable the internal auditors to do quality work within the timeframe. Finally, construction firms should have unified or track electronic systems where the ideologies, strategies or plans, structures, and responsibilities relating to the finances of construction firms are kept for prompt planning and evaluation to increase internal audit effectiveness to prevent fraud, financial mismanagement, inflated revenues, false financial reporting, and embezzlement in Ghana.

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APPENDIX A – QUESTIONNAIRE

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY
COLLEGE OF HUMANITIES AND SOCIAL SCIENCES**

SCHOOL OF BUSINESS

DEPARTMENT OF ACCOUNTING AND FINANCE

QUESTIONNAIRES

**Topic: AN ASSESSMENT OF INTERNAL AUDITS EFFECTIVENESS OF
CONSTRUCTION FIRMS IN GHANA: A CASE STUDY OF SPACE
SCHEDULERS COMPANY LIMITED**

This study is being undertaken for academic purposes, and any information given will be treated with the highest degree of confidentiality. The survey items are categorized into three sections, A, B, and C. Questions may be answered by ticking [☐] against response (s) that best suits your opinion or filling the space where appropriate. Thank you for your participation.

SECTION A

RESPONDENTS' DEMOGRAPHICS

1. Gender:

- ☐ Male
☐ Female

2. Age of respondent

- ☐ 18 – 20 years
☐ 31 – 40 years
☐ 41 – 50 years
☐ 51 – 60 years
☐ Above 60 years

3. Educational background of the respondent

- ☐ Diploma / HND
☐ Bachelor's Degree
☐ Master's Degree
☐ Doctorate Degree
☐ Please specify others

4. Professional qualification

- ☐ Institute of Chartered Accountant, Ghana (ICAG)
☐ Association of Certified Chartered Accountant (ACCA)
☐ Chartered Institute of Management Accountant (CIMA)
☐ Certified Professional Internal Auditor (CPIA)
☐ Please specify others

5. Would you please indicate your department

- ☐ Internal Audit
☐ Finance
☐ General Management

- [] Planning, monitoring and evaluation
- [] Please specify others

6. Number of working experience [] Below 5 years

- [] 6 – 10 years
- [] 11 – 15 years
- [] 16 – 20 years
- [] Above 20 years

SECTION B: DETERMINANTS OF INTERNAL AUDIT EFFECTIVENESS

On a scale of 1-5, please tick [✓] the response that reflects your level of agreement or otherwise in each of the under-listed statements.

Strongly Agree (SA) = 5; Agree (D) = 4; Neutral (N) = 3; Disagree (D) = 2; and Strongly disagree (SD) = 1.

PART I: Internal Auditor Independence

S/N	STATEMENTS	1	2	3	4	5
7	Internal auditors are independent in performing their professional duties and responsibilities.					
8	The head of internal audit reports to top management within construction firms, and provide internal auditors the chance to fulfill their obligations.					
9	The head of internal audit directly links the board chairman, CEO, top management, or council members of construction firms.					
10	The internal audit unit directly links with top management of the board council other than the finance officer.					
11	No conflict of interest exists during the activities of the internal audit.					
12	Management of construction firms does not interfere with the works of internal audits.					

13	The internal auditors have access to all information within the construction firms.					
14	The internal audit staff does not perform other functions that are not auditing issues.					

PART II: Internal Auditor Competence

S/N	STATEMENTS	1	2	3	4	5
15	Most of the internal auditors are professionally certified.					
16	Most of the internal auditors have at least a diploma certificate from accredited colleges or universities.					
17	Internal auditors at construction firms regularly attend educational sessions and seminars on auditing issues					
	for continual training.					
18	Internal auditors are proactive on current local and global audit and financial reporting standards.					
19	Most of the audit staff in construction firms have practiced or worked in the auditing field for more than two years.					

PART III: Control Environment

S/N		1	2	3	4	5
20	Ethical values and integrity have be established and complied by top managers and council members in the conduct of financial reporting.					
21	Management's recognizes and exercise oversight duties for financial reporting and other internal controls issues.					

22	The ideologies of top managers or council members and the style of operations support internal controls measures.					
23	The structure of construction firms, assignment of authority, and responsibilities are in line with its internal controls.					
24	Top Managers and employees are assigned to acceptable levels of responsibility and authority					
25	Human resource strategies and procedures have been established to facilitate internal controls over financial reporting.					

SECTION C: INTERNAL AUDIT EFFECTIVENESS

On a scale of 1-5, please tick [✓] the response that reflects your level of agreement or otherwise in each of the under-listed statements.

Strongly Agree (SA) = 5; Agree (D) = 4; Neutral (N) = 3; Disagree (D) = 2; and Strongly disagree (SD) = 1.

	STATEMENTS	1	2	3	4	5
26	The internal audit's financial and other areas reviewed and audited are significant to construction firms.					
27	Internal auditors perform other activities like evolving financial processes and conducting financial and economic audits.					
28	Internal auditors review all audit issues and determine the annual audit plan for the construction firm.					

29	The internal audit responses on matters raised in the audit procedures and submit appropriate documents to management in writing for assessment.					
30	Internal audit staff regularly follow-up issues raised and scrutinize actions taken to correct the issues.					

