

ADVANCING INTERNAL CONTROL EFFECTIVENESS AT GHANA EDUCATION

SERVICE: DO COSO MODEL VARIABLES MATTER?

KNUST

By

KINGSLEY ADOM-AMOAH

A Thesis Submitted to Department of Accounting and Finance,
Kwame Nkrumah University of Science and Technology, Kumasi

In Partial fulfillment of the Requirement for the Degree

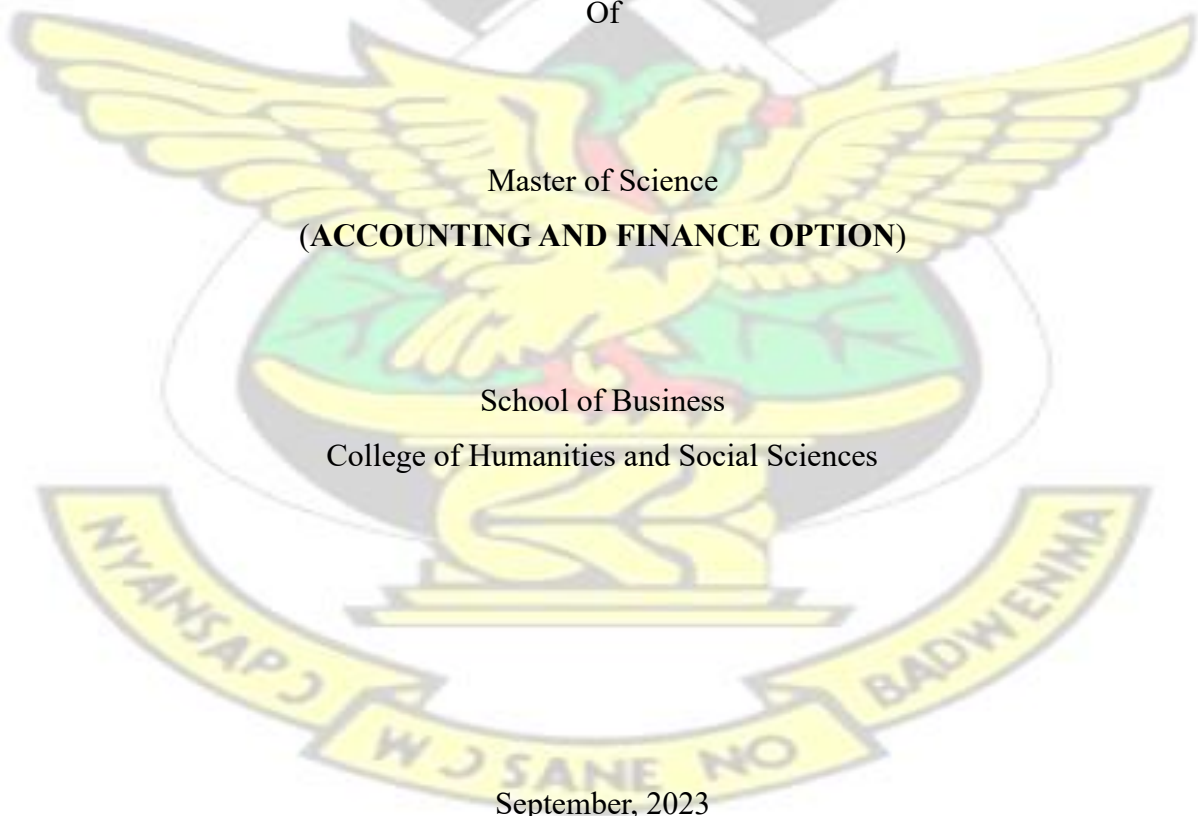
Of

Master of Science

(ACCOUNTING AND FINANCE OPTION)

School of Business

College of Humanities and Social Sciences



September, 2023

DECLARATION

I hereby declare that this submission is the results 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.

Kingsley Adom-Amoah
(Name and PG7216319)



Signature

.....

Date

Certified by:

Dr. Richard Owusu-Afryie
(Supervisor)

.....

Signature

.....

Date

Certified by:

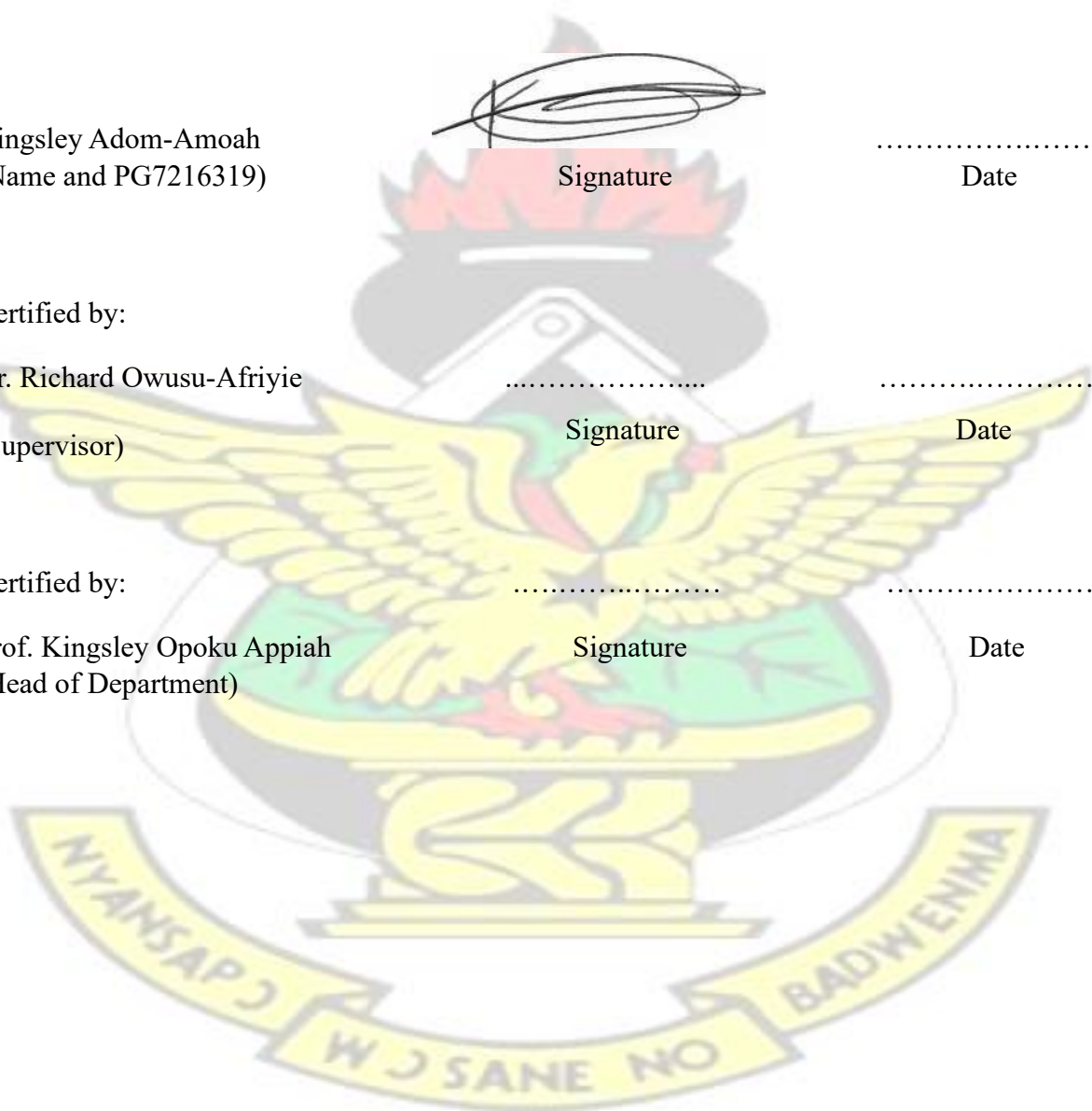
Prof. Kingsley Opoku Appiah
(Head of Department)

.....

Signature

.....

Date



DEDICATION

I dedicate this to my Wife and three children, for your constant love and prayers.

KNUST



ACKNOWLEDGEMENT

I thank God Almighty for the gift and strength of life throughout my entire stay at KNUST. I am sincerely grateful to my family for their love, support and care. The success of this project hinged on the unflinching support and guidance from my supervisor, Dr. Richard Owusu Afriyie . I am forever grateful. I also express my gratitude to Mr. Eric Adu, Dr. Francis Osie Adjei and Mr. Edem Assisi. I thank all the participants who volunteered to participate in this study. I thank all my friends and loved ones who have in one way or another, shaped the outcome of this work



This study examines whether the Committee of Sponsoring Organizations of the Treadway Commission (COSO) model's variables drive the effectiveness of internal control systems at Ghana Education Service (GES) due to the high increased demand for high-quality financial

reporting and also, knowing the recent public outcry of corporate governance scandals and the ill use of public funds in some educational institutions in Ghana. The study used descriptive and quantitative approaches or methods to analyse the responses. Also, primary data using structured questionnaires were used to achieve the research objectives or questions stipulated for the study. The study found that four major factors (control environment and risk assessment activities, control activities and monitoring activities) were the contributing factors of the COSO model driving the effectiveness of GES in Ghana. The study recommended that there should be proper training and education on the use of modern technology or computerized accounting systems that can help internal control officials to detect financial omissions, monitor risk, and ensure internal control effectiveness. Management of GES Directorates should immediately develop a backup system for all data to safeguard the future total breakdown of the systems. Also, management should establish communication tools for members to channel any alleged improprieties for immediate action, and top managers and directors should involve all stakeholders of the directorates in making decisions. In addition to the above, the finance and administration as well as account office units should fully adopt the internal auditing and financial reporting standards such as **ISA, IPSAS, IFRS** and others in reporting accounting information. Management should liaise with professional accounting and auditing officials to help train the staff of Directorates on how to implement and comply with current international accounting and auditing standards. Finally, external audits should be done quarterly and not annually, and recommendations should be implemented by stakeholders.

TABLE OF CONTENT

DECLARATION	<i>ii</i>
DEDICATION	<i>iii</i>
ACKNOWLEDGEMENT	<i>iv</i>
ABSTRACT	<i>iv</i>

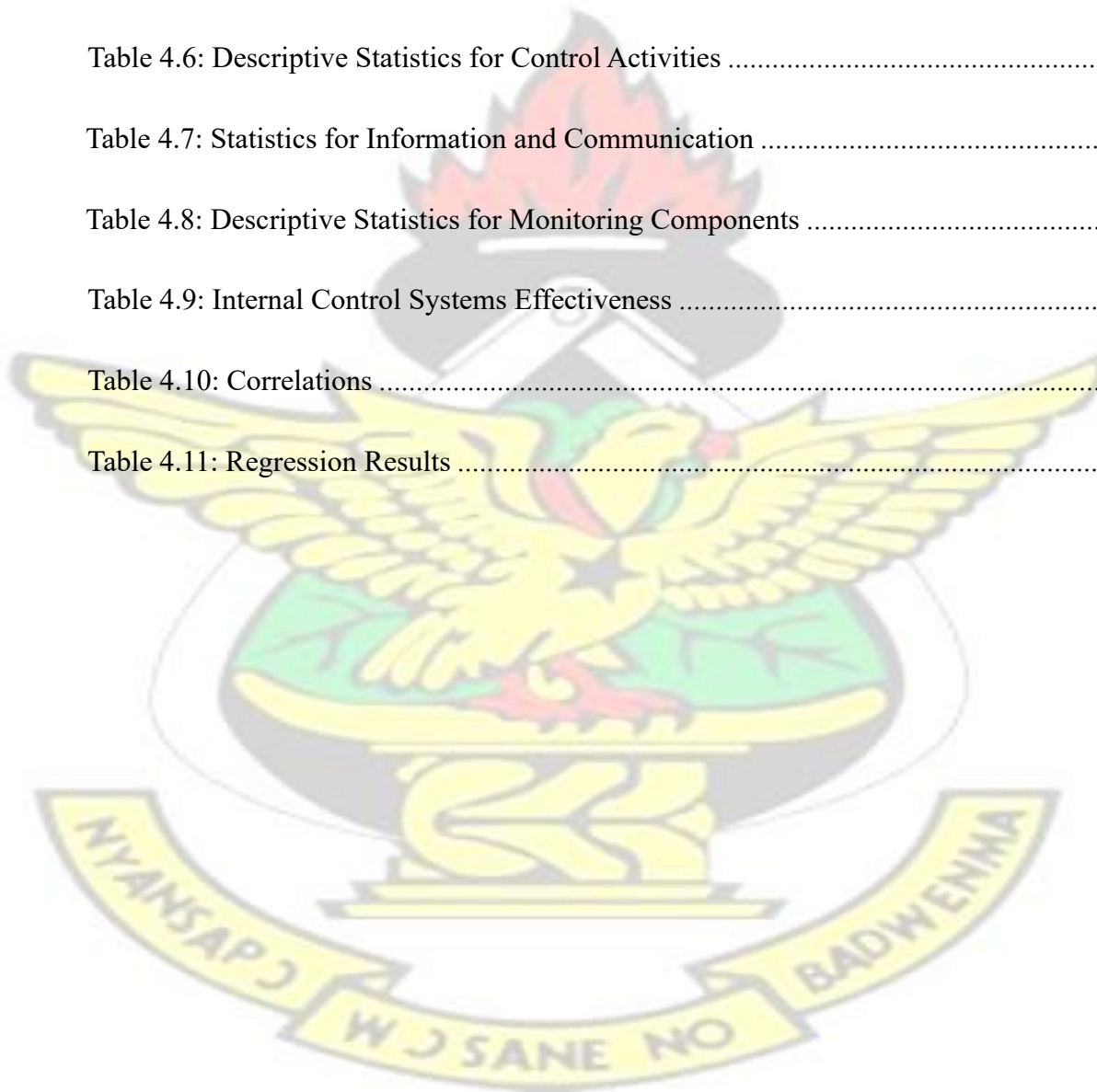
TABLE OF CONTENT	v
LIST OF FIGURES	ix
LIST OF TABLES	ii
CHAPTER ONE	Error! Bookmark not defined.
INTRODUCTION	1
1.1 Background of the Study	1
1.2 Problem Statement.....	3
1.3 Research Objectives.....	5
1.4 Research Questions.....	5
1.5 Significance of the Study	6
1.6 Scope of the study.....	7
1.7 Limitations of the Study	7
1.8 Organization of the Study	8
CHAPTER TWO	8
LITERATURE REVIEW	8
2.1 Introduction.....	8
2.2 Conceptual Framework.....	8
2.3 Theoretical Review	9
2.3.1 Resource Based Theory	9
2.3.2 Agency Theory.....	11
2.3.3 Institutional Theory	12
2.4 Concepts of Internal Control Systems	14
2.5 COSO Model	15
2.5.1 Control Environment	15
2.5.2 Risk Assessment	20

2.5.3 Control Activities.....	22
2.5.4 Information and Communication.....	24
2.5.5 Monitoring Control.....	24
2.6 Internal Control Effectiveness.....	25
2.7 Empirical Review	26
CHAPTER THREE.....	28
RESEARCH METHODOLOGY.....	28
3.1 Introduction.....	28
3.2 Research Design	29
3.3 Population.....	29
3.4 Sample and Sampling Technique.....	30
3.5 Source of Data	30
3.6 Data Collection Instrument.....	31
3.7 Data Analysis.....	31
3.8 Model Specification.....	32
3.9 Reliability and Validity	33
CHAPTER FOUR.....	34
RESULTS AND DISCUSSIONS.....	34
4.1 Introduction.....	34
4.2 Demographic Statistics	34
4.2.1 Gender.....	35
4.2.2 Respondent’s Age	35
4.2.3 Educational Background.....	36
4.2.4 Respondent’s Departments	36

4.3 Descriptive Statistics on Research Objectives.....	37
4.3.1 Control Environment and Risk Assessment	37
4.3.2 Control Activities.....	39
4.3.3 Information and Communication.....	40
4.3.4 Monitoring Components.....	41
4.4 Descriptive Statistics for Internal Control Effectiveness.....	43
4.5 Correlations among Variables.....	44
4.6 Discussion of Regression Results.....	45
CHAPTER FIVE	48
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	48
5.1 Introduction.....	48
5.2 Summary of Findings	48
5.3 Conclusion.....	50
5.4 Recommendations.....	51
5.5 Suggestions for Future Research	51
REFERENCES	1
APPENDIX	5
LIST OF FIGURES	
Figure 2.1: Conceptual Framework of the study	9

LIST OF TABLES

Table 4.1: Gender	36
Table 4.2: Age of Respondent	37
Table 4.3: Educational qualification	37
Table 4.4: Unit of Respondent	38
Table 4.5: Descriptive Statistics for Control Environment and Risk Assessment.....	39
Table 4.6: Descriptive Statistics for Control Activities	41
Table 4.7: Statistics for Information and Communication	42
Table 4.8: Descriptive Statistics for Monitoring Components	43
Table 4.9: Internal Control Systems Effectiveness	44
Table 4.10: Correlations	46
Table 4.11: Regression Results	47



CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The education directorate in every developing and developed economy strives to attain efficiency and transparency in providing services and maintaining proper financial transactions (Barış and Baskan, 2020). There is also growing interest among public institutions in enhancing risk management through proper processes and procedures to promote efficient services among professionals within the institution (Kaufmann, Mehrez and Gurgur, 2019). The most common measure of these processes and/or procedures is the internal control systems (Chalmers, Hay and Khlif, 2019; Li, Shu, Tang and Zheng, 2019). Moreover, good corporate governance systems in every institution start with having strict internal control systems and have become a de facto contributor to effective corporate governance of institutions globally and locally (Kabuye et al., 2019). There is conclusive proof that an efficient internal management structure helps the board of organizations to carry out its corporate governance activities through operational participation, appraisal, preparation, technical advice and communication at all levels of the entity (Kaufmann et al., 2019).

Furthermore, the internal management mechanism controls, regulations and procedures followed by the organisations to ensure that transactions are handled in a manner sufficient to prevent fraud, corruption and abuse of resources of the organizations (Ndifon and Patrick, 2014). Henceforth, an institution's confidence depends on the internal control system and its capacity to perform or take a particular action to prevent errors and losses through enhancing and monitoring of financial reporting process and ensuring compliance with regulations and laws. Chalmers et al. (2019) assert that the system's internal controls have been escalated and contribute significantly to business improvement and strategic and operations risks.

Internal controls in the education sector or organizations commonly regarded as managerial policies play an important role in retaining confidence in the stewardship of supervisory assets, often keeping in check those to whom the stewardship duty is assigned (Baris and Baskan, 2020). To safeguard these funds, each directorate and/or regional directorate needs other types of checks and balances to evaluate the agencies themselves, and this is achieved largely implicitly by the institutionalization of internal control processes and often by requiring the system to operate or work properly (Li et al., 2019). It is noteworthy that many businesses lack a comprehensive understanding of the need for internal control, despite its crucial role in ensuring organizational order, direction, and consistency. The elucidation of internal control within the framework of its impact on the financial performance of all organizations, including the educational directorate in Ghana, will facilitate the exploration of the reasons for its relatively limited recognition. The internal control system is increasingly recognized as a valuable mechanism for enhancing corporate financial performance. However, there is a need to develop a comprehensive internal control system that encompasses all aspects of a firm's activities.

In light of the growing emphasis on accountability, transparency, and efficiency in the public sector, particularly in developing nations where various stakeholders, including civil society and the media, are increasingly engaged in the allocation and utilization of public funds, governments must be perceived as possessing a sense of responsibility and employing a robust financial control mechanism (Baris and Baskan, 2020). Tran and Noguchi (2020) are correct in stipulating that the internal management mechanism is beneficial when it comes to controlling public budgets, maintaining budgetary transparency, and improving public entities' governance structures. Nevertheless, the challenge to internal control systems has become evident in several new controversies involving Audit Service personnel, serving as internal and external

auditors at the Ghana Education Service, who have caused the state a massive financial loss (Abbey, Azeem and Kuupiel, 2010). Contrarily, the perceived relevance of internal controls, as a facet of corporate governance has increased, thereby highlighting the need to exact the parameters of what indeed constitutes a major determinant of internal control systems effectiveness in Ghana.

In light of the above, a synopsis could be drawn that increased concerns concerning corporate accountability in various developed and worse still, developing nations have been associated with the need for apt internal control systems (Chalmers et al., 2019; Kaufmann et al., 2019; and Li et al., 2019). These and many others call for the need to examine the internal control systems in selected educational directorates within the Greater Accra region such as Ga North and Ga West Directorate of Ghana Education Service. The educational directorate is selected because an effective education services delivery requires effective management of resources and assets and this can only be achieved with robust effective internal control systems.

1.2 Problem Statement

The Educational Directorate is a deeply diverse organization of management that is continuously vulnerable to financial threats and suffering. Across different economic regimes, the internal control structure has been researched and implemented to enhance corporate efficiency, competitiveness and efficiency. However, in the current literature, the education sector and/or directorate are still suffering from a lack of focus, especially concerning the need for a high degree of financial accountability and process-oriented management administration. Furthermore, there is a significant rise in the demand for high-quality financial reporting and operational efficiency. As a result, regulators are actively seeking approved internal control systems to automate institutional activities (Onumah, Kuipo, & Obeng, 2012). Despite the existence of numerous studies examining internal control systems in various types of firms

across advanced, developing, and emerging markets, including listed firms, non-governmental institutions, and small businesses, a significant proportion of these studies fail to utilize validated frameworks or models for the assessment of internal control systems.

Moreover, scholarly authors often overlook the perspectives of educational directorates, which play a crucial role in any economy. Several scholarly publications have been identified, namely Altamuro and Beatty's study from 2010, Onumah et al.'s research conducted in 2012, Oppong et al.'s publication in 2016, Eko and Hariyanto's work in 2011, and Nilniyom and Chanthinok's study also from 2011. Previous research has predominantly concentrated on management disclosures and the recommendations provided by internal and external auditors as means to evaluate the internal controls of companies in Ghana. This limited focus has resulted in significant discrepancies in the conclusions of several studies (Onumah et al., 2012). The researcher is motivated to address this gap by utilizing the updated globally recognized model of the Committee of Sponsoring Organizations of the Treadway Commission (COSO) 2013 model. This will be employed to evaluate the extent of internal control systems inside the educational directorate in Ghana. The financial management of the education directorate has encountered certain structural challenges that have hindered the advancement and development of educational reforms in the nation. Hence, it is necessary to gather empirical evidence on the factors that contribute to the effectiveness of internal control systems. Therefore, the researcher finds it appropriate to conduct a study on the determinants of the effectiveness of internal control systems in selected educational directorates, which play a crucial role in providing essential services to the majority of the Ghanaian population. The limited availability of resources within the educational directorate can have a negative impact on its performance.

Given the scarcity of resources, it is crucial to ensure that they are utilized efficiently. This underscores the importance of implementing internal control systems. However, what are the

criteria or variables used to assess the efficacy of internal controls? The rationale behind undertaking this research is in the pursuit of uncovering the answers to this question.

1.3 Research Objectives

This study examines the effectiveness of internal control systems at GES using empirical evidence from Ga North and Ga West Directorate in Ghana. To achieve this main objective, the following specific objectives have been developed:

1. To find out whether control environment and risk assessment affect the effectiveness of internal controls of directorates of GES in Ghana.
2. To establish whether control actions or activities affect the effectiveness of internal controls of directorates of GES in Ghana.
3. To determine whether information and communication components drive the effectiveness of internal controls of directorates of GES in Ghana.
4. To evaluate the effect of monitoring components on the effectiveness of internal controls of directorates of GES in Ghana.

1.4 Research Questions

1. Do control environment and risk assessment affect the effectiveness of internal controls of directorates of GES in Ghana?
2. Do control actions or activities affect the effectiveness of internal controls of directorates of GES in Ghana?
3. Do information and communication components drive the effectiveness of internal controls of directorates of GES in Ghana?
4. What is the effect of monitoring components on the effectiveness of internal controls of directorates of GES in Ghana?

1.5 Significance of the Study

The outcome of this study will deliver a standard which could be adopted by companies to evaluate their internal control effectiveness that can influence the financial performance during the auditing process in the educational sector. Internal control assessment can help educational directorates in developing economies to operate effectively and efficiently and ensure proper utilization of resources. The study aims to enhance the effectiveness of internal controls within the educational sector in Ghana by utilizing an integrated framework. This research has the potential to benefit both regulators and practitioners by promoting more professionalism in their respective roles.

Also, external and internal auditors of GES can use the study's findings to assess the risk, control the operational environment and activities, and monitor and properly disseminate information and communication. The findings of the study would highlight the understanding of determinants of internal control systems of the educational directorate in Ghana, and this can serve the management of the educational directorate to create value for them, avoid failure, and save the operating and administration costs for effective educational service delivery in the country per applicable policies and procedures.

In addition, the study results may help regulatory associations update the range of skills and competencies required for their career, per the transformation taking place right within the educational system. Government and policy makers would know the major determinants of internal control systems and this would ensure effective management of scarce resources for robust educational service delivery. Finally, the study contributes significantly to extant literature from the educational sector perspective and would serve as a reference point for future research.

1.6 Scope of the study

The study focuses on the GES Directorate within the Greater Accra region in Ghana. This may make it difficult to generalize the findings of the study since the results do not cover the whole country. However, issues of internal control systems in one directorate, and/or region are not completely different from others due to prevailing professional applicable policies, Acts, codes, laws and frameworks. Therefore, the results could still be useful for policymaking. The scope of the study includes staff such as accountants and accounts staff, internal auditors and management of two (2) directorates namely; Ga North and Ga West Educational Directorate in Ghana. In terms of the measurement of internal control systems, the study's scope focuses on the revised five (5) COSO (2013) model or framework (that is control environment, risk assessment, control activity, information and communication, and monitoring components) for the research.

1.7 Limitations of the Study

The main drawback of the research is that in both emerging and industrialized countries, there are few relevant reports on internal control systems in the educational sectors. Thus, the researcher adapts and relies on extant literature on listed firms, small businesses, financial institutions, and non-profit organizations to contextualize the present study. Also, the study is limited to only two directorates of GES, however, because the researcher wants to do an indepth inquiry and get a directorate grip on the context-specific issues underlying internal control systems. Another limitation is that the study uses the quantitative approach of analysis and neglects qualitative research. The study's findings are also only dependent on the understanding of respondents on the topic being researched as well as their willingness to be fair in response.

1.8 Organization of the Study

The analysis is structured into five main chapters. In the first chapter, the background is provided, along with a description of the problem, the research aims and questions, a concise overview of the methodology employed, the significance of the study, and the scope and limitations of the study. Chapter two provides a comprehensive assessment of the pertinent literature. Chapter three of the study presents the research methodology, encompassing several components such as research design, sources of data, target population, sample size, sampling procedure, data collection methods, data analysis and model, as well as the validity and reliability of the data. Chapter four of this study includes the results and discussions that align with the aims of the research. The concluding chapter, Chapter Five, is devoted to providing a comprehensive overview of the study's findings, drawing inferences based on these findings, and presenting recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

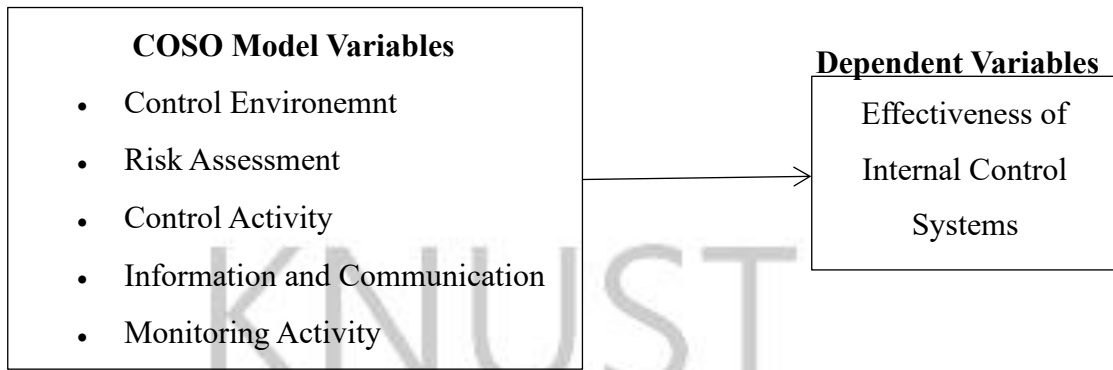
The chapter provides reviews of existing literature that is relevant to the study's objectives or variables. The chapter includes a theoretical review. Conceptual review, empirical review, and conceptual framework.

2.2 Conceptual Framework

Figure 2.1 shows the network of dependent and independent variables used for the study.

Figure 2.1: Conceptual Framework of the study

Independent Variables



Source: Author's Construct (2023)

Based on the framework of extant literature such as Onumah et al. (2012), Oppong et al. (2016); and Nilniyom and Chanthinok (2011); as well as the COSO Framework of 2011, five (5) major determinants of internal control systems are amended to examine their effectiveness using Ga North and Ga West Directorates of GES. The independent variables are functions of control setting, risk management, control operation, information and communication and supervision. These variables have been used by prior scholars to examine the effectiveness of internal control systems (Onumah et al., 2012).

2.3 Theoretical Review

This section highlights the theories for understanding the concept of internal control systems. This study focuses on three major theories to examine internal control systems in Ghana Education Systems (GES). The theories are the resource-based theory, agency theory, and institutional theory. The next subsections discuss each of these theories.

2.3.1 Resource Based Theory

Penrose (1959) offers a theoretical foundation for the resource-based theory where the company was seen as a managerial firm and the selection of internal resources has massive impacts on

the policies, productivity and success of the business. The theory is an economic concept that organisations follow and use to focus on the financial tools necessary inside the enterprise. The theory's emphasis is the organization's foundation for strategic advantage, which rests predominantly in utilizing the bundled tools at the firm's discretion. Therefore, to turn a successful short-run advantage into a sustainable competitive advantage, there is a need for diverse assets that are not fully portable (Preuss, 2013). This turns in a more effective manner into invaluable assets which are neither completely imitable nor replaceable without much work (Preuss, 2013).

The hypothesis centred on several core areas of interest, namely firm qualities and facts, the company's resources strengths and staff and management knowledge development. The organisation manages these important tools that help it enforce policies or initiatives that improve efficiency, economy and effectiveness (Li and Wu, 2014). The resource-based hypothesis suggests that the firm's accumulated valuable assets contribute to a competitive edge. This indicates that the firm controls the valuable resources fully to improve its contribution to achieving competitive advantage in its organisational environment (Hoffman and Sandelands, 2005). Islam and Siwar (2013) observed that a company's environmental condition can affect the company's sustained competitive edge. They concluded that a more sustainable competitive advantage against employee productivity can be created by organizations that control environmental factors.

As per Hindle (2007), a competitive edge is turned into assets in circumstances where a company can utilize capital in a competitive setting. It means that organisations should analyze their capital internally by utilizing factors such as availability, imitability and value. The value condition explains the possibilities the organization has to utilize to boost efficiency. Rarity

shortage is the capital handled by the rivals of the company. The imitability condition is where the organization acquires few resources and is likely to lose cost advantages compared to other competitors. The educational sector provides relevant services and needs to manage resources effectively to be able to provide continual educational service to the Ghanaian populace. Internal audits are often set up in these educational directorates to assist management in the effective management of scarce resources and we need to examine the determinants of internal audit effectiveness in these selected directorates to be able to critically assess if indeed these internal auditors are living up to the expectations of the public. In short, the resourcebased theory essentially describes the tools a company utilizes to boost its productivity and effectiveness (Li and Wu, 2014). The ability of the management of the educational directorate to implement effective internal audit charters and policies depends on the available resources since the implementation of most recommendations by internal auditors requires resources one way or the other.

2.3.2 Agency Theory

The agency theory was created by Ross and Barry in 1970, when they conceptualized an organization as a significant framework that facilitates the implementation of many ideologies, such as internal audit (Mitnick, 2006). The viability of this concept is contingent upon the interplay between agents and their principals, a dynamic that is further solidified by the principal, or management, of an organization enlisting experts, such as auditors, to oversee the actions of the agent (Adams, 1994). The idea posits that the agent's output is influenced by moral hazards and unfavourable selection of alternative programs. According to Chalmers et al. (2019), the agency theory posits that organizations are motivated by economic incentives to disclose information regarding programs aimed at enhancing performance. The theory also emphasizes the importance of the corporate governance code, which enables shareholders to exercise their rights and promotes transparency among senior managers. This approach aims

to overcome organizational difficulties and facilitate the successful implementation of programs.

Additionally, it is asserted that the presence of managerial compensation, active shareholder participation in the form of dismissal, and the potential for takeover are crucial factors in the pursuit of maximizing the wealth of stakeholders within a corporation or organization. The oversight, surveillance, and assessment of operations within a company are methods of attaining performance, typically led by internal auditors (Chalmers et al., 2019). This theory provides the basis for the relationship between organizational structure enhancements and the implementation of internal audit systems, which is linked to improved effectiveness of internal controls. The relevance of the agency theory to this study stems from the recognition that internal audit serves as a method employed by organizations to enhance their performance, among other internal mechanisms. Analyzing the dynamics between administrators and workers is crucial to facilitating the successful execution of audit committee programs that would provide advantageous outcomes for the organization.

2.3.3 Institutional Theory

Institutional Theory offers a theoretical framework, as per Glover et al. (2014), from which investigators may recognize and analyze factors which foster the sustainability and validity of organizational activities. The considerations involve culture, socioeconomic climate, the legal system, tradition and history, and economic opportunities while considering the value of assets as well. The theory focuses on legitimacy which proves that stakeholders consider the adoption of sustainable practices to be appropriate and suitable (Kauppi, 2014). Institutional Theory has historically been concerned about whether individuals and institutions may best protect their roles and reputation through compliance with the regulations (such as administrative systems, government departments, legislation, courts, occupations and scripts and certain social and

cultural patterns that emphasize conformity) and institutional climate norms. (Scott, 2008). Institutions may then determine what is permissible or valid and thus make certain acts unethical or perhaps without consideration. This will then affect how organizations make decisions and internal audits thus playing pivotal roles in Institutional Theories through monitoring and controlling.

Institutional Theory could be used to describe how improvements in societal standards, technical innovations and policies impact conservation behaviour and environmental policy decisions (Jayanti, 2020). It describes how the various organizational strategies lead to environmental management strategies being adopted. This is this that will offer insight into the position of multiple participants in internal audit schemes and their function in ensuring enforcement. The institutional perspective thus facilitates the prioritization of adherence, regulatory, and social pressures in shaping organizational behaviour (Glover et al., 2014).

According to Jayanti (2020), it is recommended to employ this framework to elucidate the effects of advancements in societal norms, technological advancements, and legislative measures on sustainability-related decision-making. The field of institutional theory examines the impact of normative influences, both external and internal, such as laws, rules, and career considerations, on the shaping of organizational structures and procedures (Mihret, James, & Mula, 2010). The research included in the citation indicates that empirical evidence supports the validity of the institutional theory in assessing the efficacy of internal audits. This theory has been applied in several countries, including both developed and developing areas (Mihret et al., 2010).

2.4 Concepts of Internal Control Systems

According to Ejoh and Ejom (2014), there has been a longstanding divergence of perspectives regarding the purpose and objectives of internal control. The term "Internal Control" has been commonly interpreted as a series of measures implemented by organizations to prevent financial mismanagement and the dissemination of inaccurate financial reports. While acknowledging the importance of internal control in detecting fraud, several individuals have contended that internal control also serves a comparable role in preserving organizational efficiency. In 1936, the AICPA released a newsletter titled 'Public Accountants' Analysis of Financial Reports,' wherein internal control was defined as the set of measures and protocols implemented within a corporation to safeguard the company's assets and financial resources, as well as to verify the accuracy of its bookkeeping records. The phrase in question denotes the prevailing concept of internal control throughout the specified period. It served to delineate the practices employed inside the accounting and finance domain, with the dual objective of minimizing clerical errors and safeguarding assets, particularly monetary resources, from potential harm or theft. In 1949, the AICPA Committee on Auditing Procedures published a notable report that expanded the scope of internal control. This expanded definition encompasses an organization's strategic framework, as well as the systematic processes and measures implemented within the company to safeguard its financial resources, verify the precision and dependability of financial records, enhance organizational effectiveness, and ensure adherence to approved management practices.

According to Caplan (1999), there is significant variation in the understanding and interpretation of the idea of internal control. However, it is important to note that the concept of internal control largely pertains to the oversight and management of both managerial and accounting functions. Administrative control encompasses the strategic direction of an organization, as well as many systems and practices that facilitate effective management and

regulation. Examples encompass procedures for departmental budgeting and evaluations of outcomes. Accounting control encompasses a range of tactics and processes that are specifically designed to address contract authorization, safeguarding of assets, and the production of accurate and dependable financial reporting.

COSO's concept of internal control stresses that internal control is a mechanism and that people are influenced by the method, not just policy guides and methods. Using fair confidence in COSO's internal control concept often implies that internal control cannot possibly offer total certainty that the goals of the organization can be accomplished. The concept states that the expense of internal control within an entity does not outweigh the intended benefits. The concept of COSO is detailed in that it discusses the accomplishment of targets in the fields of financial statements, procedures and accordance with legislation and regulations. The concept includes the processes by which power is assigned by top management and assumes liability for such tasks as sales, ordering, accounting and development. Other worries included in the definition include the program to prepare, verify and distribute those current reports and analyses to different levels of management that enable executives to maintain control over the variety of activities and activities undertaken in large organizations.

2.5 COSO Model

2.5.1 Control Environment

The control setting, including order and stability, is seen as the basis for the other aspects of internal control. Management system comprises the management and board of directors' attitude, alertness, strategies, and behaviour about the internal control of the company and the significance the organization assigns to it. Messier, Glover and Prawitt (2016) proposed that an organization's atmosphere is determined by the management climate and it affects employee control awareness. This is the basis for establishing order and stability with the other elements

of internal control. According to the research conducted by Castellano et al. (2015), it has been determined that tone has an impact on organizational culture by influencing the response of top management to external pressures, such as meeting internal financial targets or revenue objectives. The establishment of a transparent control environment supported by an ethical stance within upper-level management forms the foundation of an internal control framework that prevents the circumvention of internal controls. In their study, Messier et al. (2016) put forth the proposition that various factors influence the establishment of control mechanisms, specifically those that are aimed at promoting honesty, dignity, and ethical values. These factors include the presence of a board audit committee, the prevailing management culture and institutional style, the corporate structure, the allocation of power and responsibility, as well as the policies and practices related to human resources.

i. Integrity and Ethical Values

The efficacy of internal controls is contingent upon the communication and enforcement of integrity and principles by individuals who are tasked with the development, administration, and monitoring of these controls. The management will implement moral and ethical norms to deter employees from engaging in actions that could lead to dishonesty, immorality, and illegal activity. According to the study conducted by Onumah et al. (2010), to be efficient, these principles must be expressed efficiently through suitable methods, like official regulations, codes of ethics and example setting. They also found out that, to minimize the occurrence of unethical conduct, management would implement the following: set the standard for instance, show honesty and exercise ethical behaviour; and convey to all staff that they are supposed to display the same conduct. Let every employee recognize that he or she is liable for disclosing proven or alleged misconduct to a higher level within the company and that infringement will result in penalties; and minimize opportunities and temptations that enable employees that participate in deceptive, immoral or unethical actions. (Onumah et al., 2010).

Incentives for unethical conduct involve putting excessive focus on short-term success or on achieving unreasonable production goals, and providing compensation and profit-sharing programs that could promote illegal financial reporting activities in the absence of the required controls (Chalmers et al., 2019). Types of temptations involve the absence of considerations that are considered necessary for a successful management environment; for instance, the board of directors might be inefficient, or the distribution of authority and duty may be deficient in consistency. Management will implement ethical principles by building and sustaining a culture of integrity and strong ethics; by assessing the possibility of misconduct and implementing systems, policies and controls to minimize such risks; and by improving supervisory mechanisms. In other terms, Hevesi (2005) clarified that: Management tackles the question of ethical principles as it promotes: dedication to integrity and fairness; appreciation and obedience to laws and policies; corporate loyalty; leadership through example; devotion to excellence; respect for authority; respect for the interests of employees; and conformity with professional conduct.

ii. *Commitment to Competence*

Personnel at all levels of the company must have the expertise and abilities required to successfully execute their work. Competence development requires recognition of both the requisite expertise and abilities, as well as the combination of knowledge, training and practice needed to improve the ability. Management should provide training programs for personnel on relevant topics in their various assignment areas (Onumah et al., 2010). For example, the attainment of financial statement objectives inside a prominent publicly traded firm often necessitates a higher level of proficiency from the Chief Financial Officer and accounting personnel compared to what may be required in the context of a small privately owned enterprise. In conclusion, it is imperative to establish a comprehensive job description or

alternative methods for delineating the precise responsibilities associated with individual positions. These measures should be implemented with due diligence to provide optimal staffing levels that facilitate the efficient execution of requisite duties (Abbey et al., 2010).

iii. *Audit Committee of the Board of Directors*

The influence of the Board of Directors and the Audit Committee, as well as their execution of responsibilities related to responsibility and supervision, greatly impacts the control environment. The fundamental objective associated with the establishment of audit committees is to enhance the principles of corporate governance. The Audit Committee is designed to function as an unbiased entity that addresses issues related to audit and corporate governance within the Board of Directors. It serves as a valuable mechanism, particularly in terms of safeguarding the autonomy and trustworthiness of the internal audit procedure (Onumah et al., 2010).

iv. *Management Philosophy and Operating Style*

Management theory and method of action vary from company to company. Several executives are blunt in commenting on financial issues. They establish stress and place considerable focus on reaching or beating expectations for profits. Such management can participate in high-risk operations to reap high returns. Others are conservative and risk-averse (Ndifon and Patrick, 2014). The presence of a wide range of beliefs and approaches to service will have an impact on the overall dependability of financial reporting. The control process in an organization is influenced by various attributes that are inherent in the management's culture and organizational style. These attributes encompass the management's approach to business risks, their preference for informal face-to-face communication with key executives rather than relying solely on formal written rules, the importance placed on success metrics and exception

reports, their attitudes and activities related to financial reporting, their inclination towards conservative or aggressive choices in accounting standards, their level of knowledge and conservatism in making accounting estimates, and their overall disposition towards information production, accounting practices, and personnel roles. Organizations that prioritize effective control mechanisms tend to adopt written rules, outcomes reports, and exception statements as a means of regulating various operational activities, as opposed to relying solely on verbal policies and face-to-face interactions with employees (Ndifon & Patrick, 2014).

v. ***Organisational Structure***

The organizational structure adds to the capacity of an entity to accomplish its goals by establishing a general mechanism for the preparation, implementation, supervision and tracking of the operations of the entity (Onumah et al., 2010). Developing an organizational framework within an agency includes defining the main areas of jurisdiction and accountability, as well as clear reporting lines. Responsibility classification is an aspect of an organization. This provides the specifics of whether and to whom power and duty are delegated, which will allow each person to know how their activities lead to the accomplishment of the aims of the entity; and what they will be kept responsible for (Onumah et al., 2010).

The organizational structure facilitates the segregation of transaction authorization responsibilities, transaction record maintenance, and asset safeguarding. The present system pertains to the allocation of data ownership and the determination of authorized entities capable of executing or modifying transactions. The organizational structure facilitates the delegation of authority within the organization to employees based on their specific job responsibilities. Within the organizational structure, workers are granted access to job specifications that provide comprehensive information regarding control-related duties. This enables them to

address difficulties and make improvements as needed (Abbey et al., 2010; Onumah et al., 2010).

vi. Human Resource Policies and Practices

The basic principle of internal control is that individuals enforce it. To be successful the accounting and internal control processes, human resources procedures and strategies must assure all company employees have the necessary honesty, ethical standards and competence (Abbey et al., 2010; Onumah et al., 2010). These activities include: designing effective recruiting policy; evaluating prospective employees; creating training policies that clarify prospective duties and responsibilities; taking disciplinary measures to break planned behaviour; measuring, recommending and encouraging individuals based on regular performance assessments; and enforcing an incentive system that motivates them to do so. The strategies and procedures of management to recruit, train, assess, counsel and pay workers may have a direct influence on the efficiency of the control system (Abbey et al., 2010; Onumah et al., 2010).

2.5.2 Risk Assessment

The organization encounters several risks that necessitate assessment from both external and internal origins. An essential requirement for conducting risk analysis is the consideration of the target location, which should be interconnected at several levels and possess internal reliability. Risk assessment involves the comprehensive identification and evaluation of potential hazards that may impede the achievement of desired objectives. This process establishes a structured framework for determining appropriate strategies to mitigate and manage the identified risks. To effectively address the risks associated with evolving environmental, technological, regulatory, and organizational situations, it is necessary to establish frameworks that can identify and mitigate these risks (Committee of Sponsoring

Organizations, 2012). According to Glover et al. (2014), effective risk mitigation necessitates the implementation of efficient internal control measures, as highlighted during a corporate auditors' conference. The absence of a robust control mechanism and a systematic method to identify, assess, monitor, and limit the organization's propensity for excessive risk-taking will result in its diminishment. In Power's (2004) study, risk assessment is defined as the process of estimating the likelihood of encountering issues such as wastage, theft, abuse, or mismanagement within a specific programmatic or administrative area. The diagnostic tool serves as a facilitator in promptly identifying any issues that may necessitate proactive measures. The classification of risk zones is determined through a prioritization process based on risk analyses, which consider both the likelihood and severity of adverse outcomes.

Power (2004) emphasized the categorization of risk levels as high, medium, or low in the context of risk assessment procedures. Based on the aforementioned rankings and the relative probability of adverse outcomes, an annual timetable is devised to establish the order of priority and delineate the risk assessment procedure to be undertaken. Risk reduction evaluations involve doing a comprehensive evaluation of the management control structure employed in a particular function or operation. Through the process of analyzing controls, risk management evaluations determine whether the controls in place are suitable and functioning as intended, as well as whether there is a need for more controls. When a vulnerability is identified through a risk evaluation or risk control analysis, it is imperative to promptly adopt corrective measures or construct a corrective action plan that outlines the specific actions to be taken and their respective timelines. According to Power (2003), it is advisable for managers to provide a description of the control system, such as services, procedures, or financial reporting, and subsequently conduct a risk analysis. This study helps identify the areas inside the organization where internal regulation should be implemented or reinforced, based on their level of criticality. The evaluation of risk is an essential component within the process of analyzing the

effectiveness of controls. Control measures will be implemented after the establishment of critical areas. Regular reporting is essential for identifying systems that are inadequately constructed or flawed, and continuous supervision and review play a crucial role in this process.

2.5.3 Control Activities

In comparison to the control environment and the knowledge structure that management creates to provide fair certainty that goals are met, the control operations are those policies and procedures (Abbey et al., 2010; Chalmers et al., 2019; Onumah et al., 2010). To put it another way, control operations are processes and practices intended to ensure the successful execution of management directives. Such practices and processes facilitate behaviour that tackles the danger that the company poses (Onumah et al., 2010). Control tasks detect process breakdowns, offer instructions for prompt reactions and help attain the objectives of the agency. Within an organization, a broad variety of monitoring procedures are carried out. These involve efficiency evaluations, regulation of information retrieval, and physical control, as per Glover et al. (2014).

i. Performance Review

Performance reviews entail reviews of overall performance related to budgets, forecasts and previous performance periods by linking different data sets and conducting overall performance evaluations. (Glover et al., 2014; Onumah et al., 2010). This method provides management with an aggregate sense of how workers at various levels are successfully following the organization's objectives. Through analyzing the causes of non-performance, management is best prepared to make prompt adjustments to policies and initiatives or take effective action (Chalmers et al., 2019).

ii. Information Processing Control

Management conducts numerous tasks as a way of maintaining precision, completeness, and task authorisation. Management typically establishes two general types of restrictions on the transmission of information (Abbey et al., 2010; Chalmers et al., 2019; Onumah et al., 2010). The two controls on the processing of information include general control activities applicable to all information processes, and implementation control activities applicable to a particular action. Controls on information management guarantee that all transfers are correctly approved. Transaction authorisations may be specific or general (Glover et al., 2014). General authorisation happens as the administration determines the welcoming conditions for other forms of transactions. The educational division, for instance, could lay down a strategy for granting leave. Accordingly, study leave can be given only to workers who follow the criteria. Specific authorisation happens as specific activities are approved (Glover et al., 2014).

iii. Physical Controls

Management creates physical protection for the documents and resources for effective control (Onumah et al., 2010). Ensuring the preservation of authority over unutilized pre-numbered reports, specific journals, and ledgers consistently, while also restricting the accessibility to computer programs and data, necessitates the implementation of measures aimed at safeguarding information. In asset control schemes, access to valuable assets of an organization is restricted only to authorized entities. Various security measures such as locks, barriers, and guards are employed to effectively oversee and regulate access to properties. Periodic reconciliations are done to equate financial documents with on-call tangible properties. When some anomalies are identified, reviews are undertaken to find deficiencies either in processes for the safeguarding of properties or in the management of the relevant accounting documents to ensure successful control (Abbey et al., 2010; Chalmers et al., 2019). Reconciliations are required to identify waste, destruction or asset stealing (Onumah et al., 2010).

2.5.4 Information and Communication

These aspects or components facilitate the fulfilment of internal control responsibilities within the company and enable employees to understand the significance of internal control obligations in attaining organizational objectives. The COSO (2012) provides reports on organizational operations and financial compliance information to facilitate the proper functioning of organizations. According to Ndungu (2013), it has been argued that while intelligence is important, it must be complemented by effective collaboration across the entire organization. To ensure effective dissemination of knowledge throughout the whole organization, it is necessary to establish extensive networks and communication channels that facilitate the flow of information from higher levels of management to all segments of the company (Badara & Saidin, 2013). The success of internal monitoring is determined by the adoption of specific protocols in knowledge and communication, as outlined by the COSO (2012). First and foremost, it is crucial to establish, gather, and effectively utilize essential knowledge across all levels of a business. Furthermore, it is imperative to disseminate the knowledge required for the application of specific management components.

2.5.5 Monitoring Control

The ongoing evaluations or autonomous performance assessments ascertain the presence and functionality of each of the remaining components of internal controls. If evaluation answers prove to be ineffective or experience delays, it is possible that the remedial responses initiated by management could potentially undermine the credibility of monitoring operations. The determination of the kind and duration of various evaluations mostly depends on a comprehensive evaluation of potential risks and the effectiveness of existing screening protocols. Additionally, any major issues that arise should be swiftly brought to the attention of senior management.

According to Li et al. (2019), the monitoring of controls refers to the ongoing assessment of the effectiveness and efficiency of internal control measures. Control monitoring is the comprehensive oversight conducted by firm executives over the internal control processes.

This approach entails assessing the effectiveness of internal control measures over some time to gauge their overall quality. Monitoring plays a crucial role in enabling management to make informed decisions regarding the necessity of implementing changes. Monitoring can be achieved through regular supervisory and administrative procedures, such as assessing the validity of management records and consistently monitoring this information throughout time. The inclusion of non-routine assessments, such as periodic evaluations conducted by independent auditors, is crucial for the effective implementation of quality management practices.

2.6 Internal Control Effectiveness

The effectiveness of internal control is linked to the variability of the interaction of systems in the process of achieving results. According to Ayagre (2014), the various stakeholders need to maintain what is right in controlling internal systems and are key in the attainment of desired results. One of these important stakeholders is the internal auditors who ensure proper documentation and processes of operational activities. According to Ayagre (2014), they postulated that it is imperative to continue to examine internal controls in three important steps: managers must understand the objectives of the firms, the reported financial statement must be free of errors and the required policies, laws and regulations of the companies must be duly followed. According to the COSO (2012), an evaluation of the five major elements depends on the subjective assessment where internal auditors examine organizational structures and functions concurrently intending to achieve organizational objectives. For instance, internal auditors and other independent assessors must realize and understand the five (5) elements

under the COSO framework in terms of their philosophies, their meanings and component variables before they can apply them effectively in the organization.

The key reasons for internal controls are to prevent, correct and detect possible financial malfeasances and errors that are intentionally committed by administrative and nonadministrative personnel. Based on these reasons, prior researchers have asserted that internal control effectiveness is the sole tool that can be used to avert mistakes from happening; help identify mistakes if they happen; and correct the identified mistakes. Committee of Sponsoring Organizations of the Treadway Commission (2012) specified that the effectiveness of internal control could be across different business perspectives in which varied methods can be adopted to implement, control and monitor systems within or outside the operational activities of the organization towards the achievement of expected or desired results.

2.7 Empirical Review

This section provides an overview of the existing literature that presents varying perspectives on the efficacy of internal control systems. Feizizadeh (2012) conducted a research investigation on the efficacy of internal controls and determined that a significant portion of a company's performance growth can be attributed to the success of its internal control mechanisms in facilitating its operations. The research conducted by Ahmad et al (2009) regarding the effectiveness of internal audit in Malaysian enterprises revealed that the primary challenge faced by internal auditors in executing a successful internal audit is the lack of audit staff. In their analysis, Lemi (2015) examines the effectiveness of internal control frameworks implemented by universities in identifying potential vulnerabilities inside their organizational structure. The findings indicate a lack of effective internal control mechanisms inside the universities. The risk assessment component of internal control is not commonly implemented within institutions. While universities generally have effective monitoring systems in place,

certain areas require improvement, such as the control environment, control activities, and the flow of information and communication within these institutions.

In their study, Onumah et al. (2012) examined the efficacy of internal controls in a sample of thirty-three (33) publicly listed firms in Ghana. The findings revealed that the average degree of internal control across the listed companies was deemed ineffective. The significance of the internal audit system in public sector institutions in Ghana and the issues that impede its effectiveness have been examined by Onumah and Yao Krah (2012). The researchers noted that various factors impede the effectiveness of internal audits in the public sector of Ghana. These factors include the insufficient technical competence of internal auditors, inadequate management control and funding for internal audit operations, absence of budgetary authority for internal audit units, and suboptimal functioning of audit committees, among other challenges.

Furthermore, the study conducted by Tackie, Marfo-Yiadom, and Achina (2016) investigates the level of efficacy of internal audits inside the metropolitan, municipal, and district assemblies (MMDAs) located in the Ashanti region of Ghana. The researchers noted that there was a statistically significant positive correlation between technical competence, managerial flexibility, and career growth with the success of internal audit. However, they found that top management support had minimal influence on the effectiveness of internal audits.

Moreover, the research conducted by Hailemariam (2014) revealed that the efficacy of internal controls is influenced by factors such as management support, the competence of internal audit professionals, and the presence of an approved internal audit charter. Nevertheless, the present study discovered that the perception of management and the level of organizational

independence exhibit a favourable yet statistically insignificant correlation with the effectiveness of internal audits.

The significance of internal control systems in organizational settings necessitates a thorough examination of their effectiveness. However, limited research has been conducted on the GES Directorate, particularly in the Ga North and Ga West Directorates. This current study seeks to expand upon the existing body of literature about internal control systems, which has yielded inconclusive findings. Specifically, it builds upon the works of Altamuro and Beatty (2010), Onumah et al. (2012), Oppong et al. (2016), Eko and Hariyanto (2011), and Nilniyom and Chanthinok (2011). The present study employs the methodology of a previous researcher to evaluate the efficacy of internal control systems in the educational sector of Ghana, utilizing the five primary variables of the COSO model. Hence, this research addresses the existing research vacuum by investigating the efficacy of internal control systems within the Ga North and Ga West Directorates of the Ghana Education Service (GES), thereby providing a comprehensive analysis of the internal control systems employed in the education sector of Ghana.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter provided an overview of the research methods employed in the execution of the study. This chapter provides an overview of the research design employed, the population under study, the sample selection and sampling strategies utilized, the methods of data collection, the measures of variability and reliability of the collected data, and the approaches employed for data analysis.

3.2 Research Design

Research designs encompass the systematic procedures and plans employed in doing research, which encompass a progression from overarching assumptions to specific methodologies for data collection, analysis, and explanation (Creswell, 2014; Saunders, Lewis, & Thornhill, 2009). This study used a descriptive research approach to investigate the efficacy of internal control mechanisms inside the Ghana Education Service (GES), utilizing a dataset obtained from the Ga North and Ga West Directorates.

Descriptive research is employed to establish an acceptable study design to investigate a naturally occurring scenario. Additionally, the research study utilizes a quantitative research methodology, specifically employing a cross-sectional survey design. The objective of this methodology is to offer a statistical, mathematical, or numerical examination of data that has been gathered through the administration of questionnaires and surveys. In alternative terms, quantitative analysis pertains to the systematic collection and generalization of empirical data from cohorts of individuals or the characterization of a certain pattern (Saunders et al., 2009). According to Saunders et al. (2009), quantitative research offers empirical evidence regarding the association between the dependent variable and independent variables. Additionally, the research used a cross-sectional case study methodology to gather data from two prominent directorates of the Ghana Education Service (GES) in the Accra Metropolis of Ghana. This approach facilitates the examination of trends, attitudes, and opinions within a specific group being studied. It involves selecting a subset of the community to make inferences from the sample to the entire population (Saunders et al., 2009).

3.3 Population

Saunders et al. (2009) define population as the entire collection of elements about which inferences are made. The target population includes key stakeholders (that is directors or heads,

and deputies' heads of units) from Finance and Administration, Internal Audit, Account office, Supervision and Monitoring Unit, and Educational Management Information System Unit of the two (2) directorate namely; Ga North and Ga West GES Directorate. The total population of the key stakeholders above the two directorates are forty-nine (49).

3.4 Sample and Sampling Technique

A sample is a subset of a population that is chosen to represent the larger population. Sampling, on the other hand, is the method used to select a proportionate representation from the entire sample size (Saunders et al., 2009). The researcher employs Slovin's method, as referenced in Saunders et al. (2009), to determine the appropriate sample size for the investigation. The formula utilized is presented in the following manner:

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

Where n is the sample size, e is the error term and N is the total population of the target group ($N = 49$). Now, using a margin of error of 7%, and applying the formula to compute the sample size for the study. The sample size of the respondents from the two Directorates is approximately forty (40). Since the researcher seeks to ensure diverse and in-depth views of respondents from the two departments of the directorates, a non-probability purposive sampling is used to select twenty (20) key stakeholders such as directors or heads, and deputy heads of units from Finance and Administration, Internal Audit, Account office, Supervision and Monitoring Unit, and Educational Management from each of the two selected directorates (Ga North and Ga West GES Directorate).

3.5 Source of Data

This study utilizes primary data collection methods through the administration of questionnaires. Saunders et al. (2009) suggest that primary data refers to the collection of data

about a specific subject directly from the physical environment. In the context of this study, primary data acquisition prioritizes the direct collection of data from the field through the use of questionnaires and interviews. The main sources through which the primary data are collected include accountants and accounts staff, internal auditors and management of two (2) directorates namely; Ga North and Ga West GES Directorate. This mitigates any form of misinterpretations and misrepresentations by the researcher, leading to objective and reliable findings for a given generalisation.

3.6 Data Collection Instrument

Data collection is operationalized by extracting relevant data from the questionnaire administered through the staff of the directorates used for the study. Because data is derived directly from the respondents it is apt for the use of primary data for this research. Data collected through the original research participants, in the form of respondents are often regarded as objective, reliable, unobtrusive and free from the researcher's whims, caprices and biases. The researcher developed a questionnaire based on the research questions. Questions are asked about socio-demographic characteristics from which respondents gathered age, marital status and degree of education. Information on diversity-related issues was then gathered by standardized questionnaires, where participants were questioned about the control environment, risk assessment, control activities, information and communication, monitoring controls, and internal control effectiveness.

3.7 Data Analysis

Data analysis forms the main basis for writing research reports. To ensure easy analysis, the questionnaires from each respondent are coded according to each variable in Microsoft Excel.

The Excel file of the collected responses is exported to STATA 15 software for data analysis.

The data analysis is in the form of descriptive and inferential statistics such as mean, standard deviation, and regressions which are presented in tables for discussions.

3.8 Model Specification

The study uses regression analysis to provide statistical significance in terms of the nexus that exists between the five COSO variables – control environment, risk assessment, control activity, information and communication, and monitoring of the effectiveness of internal control systems (dependent variable). The study uses Ordinary least squares (OLS) multiple regression to estimate the relationship between the independent variables and the dependent variable. The model below shows the relationship between internal control systems effectiveness and five COSO indicators.

$$\text{Internal Control Effectiveness} = \beta_0 + \beta_1 \text{Control Environment} + \beta_2 \text{Risk Assessment} + \beta_3 \text{Control Activity} + \beta_4 \text{Information and Communication} + \beta_5 \text{Monitoring Activity} + \ddot{E} \quad (1)$$

Where

β_0 = Constant coefficient

$\beta_1 - \beta_6$ = Coefficient of Independent Variables

\ddot{E} = Error Term

Internal Control Effectiveness equals the average score of the adapted perception indicators of internal control systems variables practices by Onumah et al. (2012).

Control Environment equals the average score of a 7-point Likert scale of the adapted major 6 indicators of the COSO (2011) model framework and Onumah et al. (2012).

Risk Assessment equals the average score of a 7-point Likert scale of the adapted major 3 indicators of COSO (2011) model framework as well as Onumah et al. (2012), Oppong et al (2016); and Eko and Hariyanto (2011).

Control Activity equals the average score of a 7-point Likert scale of the adapted major 5 indicators from the work of Onumah et al. (2012).

Information and Communication equals the average score of a 7-point Likert scale of the adapted major 5 indicators of the COSO (2011) model framework as well as Onumah et al. (2012).

Monitoring Activity equals the average score of a 7-point Likert scale of the adapted major 3 indicators of COSO (2011) model framework as well as Onumah et al. (2012), Oppong et al (2016); Eko and Hariyanto (2011); and Nilniyom and Chanthinok (2011).

(Refer to Appendix or Table 4.5 to Table 4.9 for the expanded indicators for each variable).

3.9 Reliability and Validity

According to De Vaus (2013), researchers must possess knowledge of two key factors when organizing a study, reviewing findings, and assessing the reliability and validity of a report. These factors are reliability and validity. Reliability refers to the likelihood that a particular measurement methodology can consistently yield a consistent definition of a given occurrence. On the contrary, the term "validity" pertains to the extent to which a measurement accurately reflects the concept it is intended to represent. The topic field has been subjected to a comprehensive literature analysis to ensure the validity of the research. This review has facilitated the identification of relevant hypotheses and question items. Regarding the reliability of the study instrument, the questionnaires underwent a pre-testing phase before their administration to permit efficient tabulation and analysis. A preliminary assessment was carried out in ten internal audit departments within each of the two chosen directorates. The objective of the surveys was to assess the significance of the aspects. The establishment of the validity of the rating scales employed for the analysis remained pending. Despite the satisfactory level of reliability, certain items that were deemed misleading were revised to enhance clarity and accuracy, while others were removed to establish uniformity within the instrument. To ensure the quality of the data, the responses were cross-checked in the field. Furthermore, the

measurement of internal consistency reliability for the constructs in the study was conducted by the utilization of Cronbach Alpha analysis. The Cronbach's alpha coefficient for the questions about the five variables of the COSO model and the assessment of internal control efficiency is 0.911. Saunders et al. (2009) suggest that a Cronbach's Alpha coefficient over 0.700 is seen as highly satisfactory. Therefore, the indicators utilized in this study exhibit a high level of reliability, and the presence of empirical bias in the replies or dataset is negligible.



CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Introduction

This study examines internal control systems effectiveness at GES Directorates using empirical evidence from Ga North and Ga West Directorate in Ghana. This chapter analyses and discusses the available data or responses to achieve the study's objectives. The results and findings are presented systematically according to the specific objectives outlined in this study.

4.2 Demographic Statistics

The study begins the chapter by discussing information on the respondents used for the study. This section outlines and explains descriptive statistics (frequency, and percentages) of gender,

age, educational background, professional qualification, and department of respondents used for the study.

4.2.1 Gender

Table 4.1 presents the descriptive statistics for gender. The result shows that 22 representing 55% are males, whereas 18 representing 45% are females. The result shows that in terms of gender, the males are more than the females counterparts used for the study's analysis and discussions.

Table 4.1: Gender

Gender	Freq.	Per cent	Cum.
Male	22	55	55
Female	18	45	100
Total	40	100	

Source: Field Survey (2023)

4.2.2 Respondent's Age

The result indicates that most of the respondents, 14 representing 35% are between 31-35 years. This is followed by 12 respondents representing 30% between 36-40 years. Those above 40 years are 11 representing 27.5%, and lastly 3 of the respondents, that is 7.5% have ages between 25-30 years. Table 4.2 shows that most of the respondents used for this study are an active labour force that is mostly the youth in active service, and this would help argue the veracity of this study.

Table 4.2: Age of Respondent

Age	Freq.	Per cent	Cum.
25-30 years	3	7.5	7.5
31-35 years	14	35	42.5
36-40 years	12	30	72.5
Above 40 years	11	27.5	100

Total 40 100

Source: Field Survey (2023)

4.2.3 Educational Background

From Table 4.3, 70% of the respondents hold a Bachelor's degree, 17.5% have Post Graduate degrees including Master's and PhDs whilst 7.5% have a Diploma. The result indicates most staff currently working at GES directorates have a bachelor's degree certificate.

Table 4.3: Educational qualification

Educational background	Freq.	Per cent	Cum.
Diploma	3	7.5	7.5
Bachelors	28	70	77.5
Post-graduate	9	22.5	100
Others	0	0	100
Total	40	100	

Source: Field Survey (2023)

4.2.4 Respondent's Departments

Table 4.4 presents the departments where the respondents are currently operating within the selected directorates used for the study. The result shows majority of the respondents 25% work in administration and finance. Account office and MIS units follow with 20% followed by internal audit, and supervision and monitoring units of 17.5%. The majority of respondents from the finance and administration, internal audit and accounts units are particularly important as the study focuses on more internal audit and/or finance and accounting-related issues.

Table 4.4: Unit of Respondent

Unit	Freq.	Per cent	Cum.
Finance and Administration	10	25	25
Supervision and Monitoring	7	17.5	42.5
Educational MIS	8	20	62.5
Accounts Office	8	20	82.5

Internal Audit	7	17.5	100
Total	40	100	

Source: Field Survey (2023)

4.3 Descriptive Statistics on Research Objectives

The section shows and explains the descriptive statistics results of the specific objectives used for the study. The subsections here discuss the results of the effectiveness of the five COSO models namely control environment, risk assessment, control activity, information and communication, and monitoring activity. Table 4.5 to Table 4.9 presents the results.

4.3.1 Control Environment and Risk Assessment

This component focuses on the procedures and policies of the general attitude of top management of the Directorates. Table 4.5 presents the descriptive statistics (mean and standard deviation) for the control environment.

Table 4.5: Descriptive Statistics for Control Environment and Risk Assessment

Control Environment	Mean	S.D
The adherence to ethical ideals and honesty in financial reporting is a crucial responsibility that must be upheld by senior executives.	6.40	2.03
Management acknowledges and fulfils its responsibilities for overseeing financial reporting and internal control matters.	6.68	1.99
The prevailing ideology held by top-level managers and the operational approach adopted by an organization are crucial in facilitating the implementation and effectiveness of internal control measures.	5.85	2.02
The organizational structure, delegation of authority, and allocation of responsibility inside the corporation are aligned with its internal control mechanisms.	6.50	1.98
Top managers and employees are allocated appropriate degrees of responsibility and authority.	5.08	2.02

Human resource strategies and procedures have been implemented to enhance internal controls about financial reporting. 5.07 1.99

Risk Assessment

Entity-level objectives are effectively bolstered by strategic plans, and their implementation at the operational level has been duly developed and effectively articulated. 5.96 2.70

Mechanisms are implemented to proactively anticipate, identify, and respond to any deviations that may impact the firm. 5.99 2.91

The finance department has implemented substantial modifications in auditing standards and International Financial Reporting Standards (IFRS) / International Public Sector Accounting Standards (IPSAS) concerning internal control. 4.83 1.95

Source: Field Survey (2023)

The mean value of 6.68 indicates that a significant portion of the sample from the Ga North and Ga West GES Directorate demonstrated recognition and implementation of oversight responsibilities on financial reporting and related internal control matters. The subsequent highest score seen is 6.50, which suggests the presence of a well-established organizational framework, and effective allocation of authority and duties, all contributing to the maintenance of internal control over financial reporting. Furthermore, it is worth noting that Table 4.5 displays the highest average score of 6.40, indicating the presence of well-developed human resource strategies and processes aimed at enhancing internal controls over financial reporting within the Ga West and North GES Directorate in Ghana.

Furthermore, the calculated mean value of 5.85 suggests that the prevailing philosophies among top managers and the operational practices employed are conducive to the implementation of internal control measures. Additionally, the mean value of 5.08 indicates that both top managers and staff within the Directorates are entrusted with appropriate degrees of responsibility and power. The mean score of 5.07 suggests that there have been effective human resource

strategies and procedures implemented to support the establishment of internal controls for financial reporting.

Regarding risk assessment, the findings shown in Table 4.5 indicate the existence of a system designed to proactively anticipate, detect, and respond to any deviations that may impact the GES Directorates. This is evident from the high mean value of 5.99. Furthermore, the substantial average value of 5.96 suggests that the Ga West and North Directorate of GES entity-level objectives are effectively supported by well-defined strategic plans and their implementation has been successfully formed and communicated. Ultimately, the average score of 4.82 indicates that there is not unanimous acceptance of the notion that the finance department has fully embraced substantial modifications in auditing standards and IFRS/IPSAS about internal control.

4.3.2 Control Activities

The control activities component focuses on the established guidelines that direct an institution in alleviating risks to the accomplishment of the goals of an organization. The study uses 5 adapted measures from the literature to evaluate the effectiveness of the control activities.

Table 4.6 shows the control activities' descriptive statistics.

Table 4.6: Descriptive Statistics for Control Activities

Variables	Mean	S.D
Procedures and guidelines about the company's operations are essential.	6.11	2.23
The objectives of the budget and other financial reporting statements, as established by management, are clearly defined and effectively conveyed.	5.99	2.05
Duties are systematically allocated among individual workers to mitigate instances of inappropriate behaviour.	5.93	2.04
Regular comparisons are made between the actual quantities and the budgeted amounts.	5.96	2.01

Established policies have been implemented to regulate access to program and data files. 5.79 1.83

Source: Field Survey (2023)

According to the data presented in Table 4.6, there is a notable average value of 6.11. This suggests that the Ga North and West of GES Directorates have effectively implemented the required protocols and norms about their activities. Furthermore, the data suggests that the objectives set by management regarding budget and financial reporting statements are effectively communicated and well-defined, as shown by a mean score of 5.99. Additionally, the Directorates consistently provide periodic comparisons between actual and budgeted amounts, with a mean score of 5.96. Furthermore, the substantial average of 5.95 also suggests that responsibilities are effectively allocated among personnel and/or departments within the Directorates. The last variable also exhibits a very high mean score of 5.79, indicating that the protocols governing the regulation of access to program and data files have been successfully implemented.

4.3.3 Information and Communication

Table 4.7 presents a significantly higher mean value of 5.99, suggesting that the information systems in place are well-established and regularly evaluated with a focus on strategic objectives. This indicates that there is effective communication across the chosen Directorates, enabling employees to effectively carry out their responsibilities. Additionally, managers demonstrate a commitment to adhering to appropriate recommendations and suggestions provided by clients and other stakeholders. Furthermore, the participants concur that the management of the designated Directorates demonstrates a commitment to allocating and engaging appropriate resources to enhance the crucial information systems. Additionally, they

also acknowledge the observation of individual participation, as indicated by the high mean score of 5.93. Furthermore, it should be noted that the Directorates have not implemented a comprehensive plan for the continuity or retrieval of all their existing files and data (mean = 3.55). Additionally, the management of the Ga West and North regions lacks effective communication regarding employee duties and control responsibilities and has failed to establish proper channels for individuals to report potential misconduct (mean = 3.88).

Table 4.7: Statistics for Information and Communication

Variable	Mean	S.D
The establishment and evaluation of information systems are conducted with a focus on aligning them with the strategic goals of the organization, in line with the overall business plan of the company.	5.99	2.88
The management team allocates and engages appropriate resources to enhance the critical information systems, while also monitoring individual engagement.	5.94	1.70
The organization has implemented a comprehensive plan for the retrieval and recovery of all its existing files and data in the event of a continuity or breakdown situation.	3.55	1.04
The management effectively conveys employees' roles and control obligations and has implemented communication channels to facilitate the reporting of any misconduct.	5.35	1.49
Effective communication inside a business facilitates employees' ability to fulfil their responsibilities, while management diligently allocates time to consider and implement appropriate comments and suggestions provided by clients and other stakeholders.	3.88	0.99

Source: Field Survey (2023)

4.3.4 Monitoring Components

The monitoring component or activity is the final variable of the five main COSO models. It includes ongoing evaluations to make sure the other components are present and functioning.

The study uses 3 adapted measures from the literature to evaluate the effectiveness of the monitoring activities. Table 4.8 shows the results.

Table 4.8: Descriptive Statistics for Monitoring Components

Variables	Mean	S.D
Periodic assessments of internal controls are conducted, and employees diligently fulfil their usual duties to ensure the ongoing effectiveness of internal controls.	4.20	0.79
Managers are responsible for the implementation of internal control instructions as stipulated by both external and internal auditors. Any deficiencies identified in reports are promptly addressed and rectified.	4.69	0.87
The organization employs an internal auditor who oversees and evaluates the activities of the corporation.	5.54	1.98

Source: Field Survey (2023)

According to the findings presented in Table 4.8, it can be inferred that the corporation possesses an internal auditor who oversees the activities of the organization, as evidenced by the significantly high mean score of 5.54. Nevertheless, the study revealed a comparatively low average when compared to other factors employed for assessing the remaining COSO indicators. The respondents exhibited a neutral stance when asked about the frequency of internal control assessments and the diligence of workers in maintaining the effectiveness of these controls (mean = 4.20).

Additionally, it was observed that management does not promptly implement the recommendations provided by external and internal auditors to address deficiencies in reports (mean = 4.69). The latter suggests that the administration of GES typically expends less effort in implementing internal control reports and instructions provided by both external and internal auditors. Furthermore, it has been seen that the implementation of internal controls within the GES Directorate lacks regularity since periodic assessments are not conducted. Additionally,

employees fail to consistently fulfil their normal obligations of ensuring the ongoing effectiveness of these internal controls.

4.4 Descriptive Statistics for Internal Control Effectiveness

Here, the study presents the descriptive statistics of some perceived statements of the effectiveness of internal control systems. The effectiveness of the internal control system serves as the dependent variable and is also measured on a 7-point Likert scale, where a 7-point Likert scale is used to find out whether respondents strongly agree to a 1-point indicating strongly disagree with the perceived measures.

Table 4.9: Internal Control Systems Effectiveness

Variables	Mean	SD
Competent and independent internal audit staff is a fundamental determinant of internal audit effectiveness.	5.70	2.04
An effective internal audit charter is a guarantee of internal audit effectiveness.	5.80	2.00
Frequent internal audit committee meeting is a recipe for internal audit effectiveness.	5.60	1.96
Support from management as well as higher salaries and incentives for internal auditors is a determinant of internal audit effectiveness	5.71	1.99

Source: Field Survey (2023)

The results in Table 4.9 show that an effective internal audit unit at the Directorates guaranteed internal control effectiveness (mean = 5.80). Again, the study reports that contributions from management as well as higher salaries and incentives for internal auditors determine the effectiveness of internal control systems (mean = 5.71). Moreover, participants or staff of the Ga West and North GES Directorates agree that the competent and independent internal audit

staff is a fundamental factor in the effectiveness of the internal control system (mean = 5.70). Lastly, the mean of 5.60 indicates that respondents are of the view that frequent audit committee meetings enhance the effectiveness of internal control systems.

4.5 Correlations among Variables

The study uses the Pearson correlation matrix to determine the correlations that exist among the COSO five model variables and the internal control effectiveness. Table 4.10 shows the results. Table 4.10 shows that there is a positive (r -value > 0) correlation between internal control effectiveness and control environment, risk assessment, control activities as well and monitoring activities. From Table 4.10, the positive correlations between the effectiveness of internal control systems and the four COSO variables (control environment and risk assessment, control activities, and monitoring activities) record r -values greater than 50%. This implies that an increase of these four variables in the GES Directorates would increase the effectiveness of internal control systems by over 50%. However, the correlation matrix reports a negative correlation between information and communication, and internal control effectiveness at 0.02. This may imply that certain information needs not to be communicated to staff or employees of Directorates, otherwise, it may negatively affect the effectiveness of internal control systems. Put differently, some information related to the development of the Directorates may have to be kept secret by management to not distort confidential information that will eventually decrease the effectiveness of internal controls.

Table 4.10: Correlations

Variables	1	2	3	4	5
1. Internal Control Effectiveness	1.00				
2. Control Environment and Risk Assessment	0.53**	1.00			
3. Internal Audit Charter	0.58**	0.17*	1.00		

4. Information and Communication

-0.02* 0.19 0.08* 1.00

5. Monitoring Component

0.49** 0.04 0.34* 0.20** 1.00

Source: Field Survey (2023)

Significant level: ** p-value < 0.01

* p-value < 0.05

4.6 Discussion of Regression Results

As stated in the methodology, the study employs multiple regression analysis focusing on the average to examine the COSO variables and the effectiveness of internal control systems. Table 4.11 presents the regression results for the econometric model used in the study. The study records an adjusted R² of 0.833 indicating the COSO variables in the model can predict approximately 83% variance influencing the effectiveness of internal controls of Ga West and North GES Directorates in Ghana. This shows that the econometric models used for the study are very robust, relevant and suitable for achieving the study's objectives. Moreover, the result in Table 4.11 shows that the overall significant rate of the model is less than 1% (p = 0.000), confirming that, the model has statistical significance.

Table 4.11: Regression Results

Variable	B	Std. Err	T	Sig.
Control Environment and Risk Assessment**	0.501	0.112	4.47	0.000
Control Activity**	0.428	0.118	3.63	0.003
Information and Communication	-0.100	0.130	-0.92	0.571
Monitoring Activity**	0.617	0.302	2.04	0.000
Constant	1.619	0.311	5.21	0.000

Observations 40

Prof > F***	0.000
R ₂	0.841
Adjusted R ²	0.833

Source: Field Survey (2023)

Significant level: ** p-value < 0.01

* p-value < 0.05

Moreover, Table 4.11 records a positive and significant relationship between the control environment (and risk assessment) and internal control effectiveness ($\beta = 0.501$, $p < .01$). This study confirms Onumah et al. (2012) and Lemi (2015) who posited that the strength of an effective internal control system must be assessed to the level of the control environment and/or other internal and external environment factors. The study's findings also agree with Tackie et al. (2016) who report similar findings on risk assessment components.

Furthermore, there is a positive and significant relation between control activities and internal control effectiveness ($\beta = 0.428$, $p < .01$). Here, the study indicates that an increase in effective control activity will increase the effectiveness of internal control systems. This also confirms the results of Ahmad et al. (2009) and Onumah et al. (2012) who posit that effective organizational controls in terms of the operations or activities, staff relationships, adherence to policies and structure contribute to internal control effectiveness. Similarly, we report a positive and significant ($\beta = 0.617$, $p < .01$) between monitoring activity and internal control systems. The result indicates that proper monitoring and supervision of management contributes to internal control effectiveness. However, the study reports a negative and insignificant ($\beta = -0.100$, $p > .10$) relation between information and communication, and the effectiveness of internal control systems. This result contradicts prior studies by Ahmad et al. (2009), Onumah et al. (2012), and Lemi (2015). Here, the findings may imply that certain confidential

information that is communicated to staff or employees of Directorates may decrease the effectiveness of internal control systems.

KNUST



CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter includes a review of the research conclusions, conclusions and several suggestions. The chapter ends by providing some research direction for future studies.

5.2 Summary of Findings

This study examines the internal control systems at GES using datasets or responses from Ga North and West Education Directorates. The study uses descriptive and quantitative approaches or methods to analyse the responses. Also, primary data using structured questionnaires are used to achieve the research objectives or questions stipulated for the study. The major summary of findings is as follows.

The study reports a positive and significant relationship between the control environment and internal control effectiveness. The quantitative result indicates that Ga North and West GES Directorates have complete ethical and integrity values observed among managers. Also, there is proper organization structure, assignment of authorities and responsibilities support internal control over financial reporting, and human resource strategies and procedures have been established to facilitate internal controls over financial reporting at the Directorates in Ghana. Lastly, the ideologies of top managers and the style of operations support internal control measures. The result shows the Directorates have put in place the mechanism to anticipate, identify and react to any deviations in the course of duties. Again, the Directorate's level of objectives supports strategic plans, however, the finance unit has not fully adopted significant changes in international auditing and financial reporting standards to internal control systems.

The control activities indicators also show a positive and significant relationship with internal control effectiveness. The quantitative results also show that the Directorates have put in place the necessary procedures and guidelines concerning the operations. Again, management communicates the current state of the budget and other financial reporting statements by providing periodic comparisons of actual and budgeted amounts. Lastly, the staff duties are logically divided among departments or units of the Directorates, and the policies for controlling in terms of access programs and data files have been established.

The results for communication and information show that it does not contribute to the effectiveness of internal control systems. This is because the result reports a negative and insignificant relation between information and communication and internal control systems. Again, the selected Directorates are not good at information and communication dissemination, and they have not fully established a disaster recovery plan for all their primary data but information systems have been established and reviewed based on the company's tactical objectives. Lastly, the result finds that Ga North and West GES Directorates do not actually communicate the employee's duties and the necessary information to effectively carry out the activities of the Directorates.

The study's findings show that there is a positive and significant relationship between monitoring activity and internal control systems. This implies that monitoring activities contribute to internal control systems. However, the result shows that the management of the Directorates does not implement internal control directives timely reported by both external and internal auditors to correct the deficiencies in the reports. Also, internal controls at the GES Directorate are not periodically done and workers do not carry out their routine responsibilities of making sure internal controls continue to work.

5.3 Conclusion

This study examines the effectiveness of internal control systems at Ghana Education Service due to the high increased demand for high-quality financial reporting and efficiency, and also, knowing recent public outcry of corporate governance scandals and the ill use of public funds in some educational institutions in Ghana. The researcher believes that the government intends to enhance best financial management practices and this could be made possible through robust internal control systems that help widen the scope of responsibility, and accountability and restrict misapplication and misappropriation of funds or assets. The study's results show that there is an effective internal control system in terms of effective control environment, risk assessment, control activity and monitoring activity.

The quantitative analysis of the perceived survey responses of the major COSO variables of internal control systems was positive and significant except for communication and information components or variables. This is because, under the communication and information, the result shows that there is non-establishment of a breakdown retrieval plan for all their current data and files and poor communication of the relevant information to staff in performing their duties. In conclusion, four major factors (control environment and risk assessment activities, control activities and monitoring activities) affect or contribute to the effectiveness of internal control systems of Ga North and West GES Directorates in Ghana due to high arithmetic mean and strong significant values ($p\text{-value} < 0.05$). These determinants contribute to internal control effectiveness and can improve accounting, financial management and/or corporate governance of District and Municipal Educational Directorates in Ghana.

5.4 Recommendations

Based on the findings and conclusions drawn from this study, the researcher makes the following recommendations. Firstly, this study recommends that there should be proper training and education on the use of modern technology or computerized accounting systems that can help internal control officials detect financial omissions, monitor risk, and ensure internal control effectiveness. Secondly, the management of GES Directorates should immediately develop a backup system for all data to safeguard the future total breakdown of the systems. This would help prevent fraud and other financial malfeasance and nonperformance in case of breakdown which may be unable to retrieve.

Thirdly, management should establish communication tools for members to channel any alleged improprieties for immediate action, and top managers and directors should involve all stakeholders of the directorates in making decisions. In addition to the above, the finance and administration as well as account office units should adopt fully the internal auditing and financial reporting standards such as ISA, IPSAS, IFRS and others in reporting accounting information. Management should liaise with professional accounting and auditing officials to help train the staff of Directorates on how to implement and comply with current international accounting and auditing standards. Moreover, all receipts and payments should be fully done on the GIFMIS setup, and sanctions should be applied to the financial administrators for financial infractions. Finally, external audits should be done quarterly and not annually and recommendations should be implemented by stakeholders.

5.5 Suggestions for Future Research

This study excludes external auditors in the survey, and therefore, future studies should consider investigating the perception of external auditors on the effectiveness of internal control systems in Ghana. The study also suggests that future studies should be conducted on

private educational directorates to ascertain the accuracy and authenticity of the study's findings. Also, future studies should adopt a qualitative approach so that the findings can be juxtaposed for effective decision-making and towards the improvement of the delivery of educational services in Ghana.

KNUST



REFERENCES

- Abbey, C., Azeem, V. A., and Kuupiel, C. B. (2010). Tracking the Ghana district assemblies common fund. *Demanding Governance*, 71.
- Adams, M. B. (1994). Agency theory and the internal audit. *Managerial Auditing Journal*.
- Ahmad, N., Othman, R., Othman, R., and Jusoff, K. (2009). The effectiveness of internal audit in Malaysian public sector. *Journal of Modern Accounting and Auditing*, 5(9), 53.
- Altamuro, J., and Beatty, A. (2010). How does internal control regulation affect financial reporting?. *Journal of accounting and Economics*, 49(1-2), 58-74.
- Ayagre, P., Appiah-Gyamerah, I., and Nartey, J. (2014). The effectiveness of Internal Control Systems of banks. The case of Ghanaian banks. *International Journal of Accounting and Financial Reporting*, 4(2), 377.
- Badara, M. A. S., and Saidin, S. Z. (2013). The journey so far on internal audit effectiveness: a calling for expansion. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 3(3), 340-351.
- Barış, A. E., and Baskan, G. A. (2020). Adaptation of internal audit system to supervisory system in the provincial directorate of national education and a model proposal. *Pegem Eğitim Ve Öğretim Dergisi*, 10(1), 103-146.
- Caplan, D. (1999). Internal controls and the detection of management fraud. *Journal of Accounting Research*, 37(1), 101-117.
- Castellano, J., Baker, B., and Sweeney, R. J. (2015). The role of corporate boards in employee engagement. *IUP Journal of Corporate Governance*, 14(4), 7.
- Chalmers, K., Hay, D., and Khlif, H. (2019). Internal control in accounting research: A review. *Journal of Accounting Literature*, 42, 80-103.
- Creswell, J. W. (2014). *A concise introduction to mixed methods research*. SAGE publications.
- De Vaus, D., and de Vaus, D. (2013). *Surveys in social research*. Routledge.

- Ejoh, N., and Ejom, P. (2014). The impact of internal control activities on financial performance of tertiary institutions in Nigeria. *Journal of Economics and Sustainable Development*, 5(16), 133-143.
- Eko, S., and Hariyanto, E. (2011). Relationship between internal control, internal audit, and organization commitment with good governance: Indonesian Case. *Managerial Auditing Journal*, 32(5), 6-13.
- Feizizadeh, A. (2012). Strengthening internal audit effectiveness. *Indian Journal of Science and Technology*, 5(5), 2777-2778.
- Glover, J. L., Champion, D., Daniels, K. J., and Dainty, A. J. (2014). An Institutional Theory perspective on sustainable practices across the dairy supply chain. *International Journal of Production Economics*, 152, 102-111.
- Hailemariam, S. (2014). *Determinants of internal audit effectiveness in the public sector, case study in selected Ethiopian public sector offices* (Doctoral dissertation, Jimma University).
- Hevesi, G. A. (2005). Standards for Internal Control in New York State Government. *Tersedia* www.osc.state.ny.us.
- Hindle, K. (2007, January). Formalizing the concept of entrepreneurial capacity. In *Refereed Proceedings of the 2007 ICSB World Conference, Finland: Turku School of Economics*.
- Hoffman, A. J., and Sandelands, L. E. (2005). Getting right with nature: Anthropocentrism, ecocentrism, and theocentrism. *Organization and Environment*, 18(2), 141-162.
- Islam, M. M., and Siwar, C. (2013). A comparative study of public sector sustainable procurement practices, opportunities and barriers. *International Review of Business Research Papers*, 9(3), 62-84.
- Jayanti, R. K. (2020). An Institutional Theory Perspective on Retailer Loyalty. *Journal of Relationship Marketing*, 1-21.

- Kabuye, F., Kato, J., Akugizibwe, I., and Bugambiro, N. (2019). Internal control systems, working capital management and financial performance of supermarkets. *Cogent Business and Management*, 6(1), 1573524.
- Kaufmann, D., Mehrez, G., and Gurgur, T. (2019). Voice or public sector management? An empirical investigation of determinants of public sector performance based on a survey of public officials. *Journal of Applied Economics*, 22(1), 321-348.
- Kauppi, K. (2013). Extending the use of institutional theory in operations and supply chain management research. *International Journal of Operations and Production Management*.
- Lemi, T. (2015). *Assessment of Internal Control Effectiveness in Selected Ethiopian Public Universities* (Doctoral dissertation, Addis Ababa University).
- Li, P., Shu, W., Tang, Q., and Zheng, Y. (2019). Internal control and corporate innovation: evidence from China. *Asia-Pacific Journal of Accounting and Economics*, 26(5), 622642.
- Messier, F., Glover Steven, M., and Prawitt Douglas, F. (2016). *Auditing and Assurance Services*.
- Mihret, D. G., James, K., and Mula, J. M. (2010). Antecedents and organisational performance implications of internal audit effectiveness. *Pacific Accounting Review*.
- Mitnick, B. M. (2006). Origin of the Theory of Agency. *An account by one of the Theory's Originators. Rev. University of Pittsburgh*.
- Ndifon, E., and Patrick, E. (2014). The impact of internal control activities on financial management of Tertiary Institutions in Nigeria. *Journal of Economics and Sustainable Development*, 5(16).
- Ndungu, J. M. (2013). Information technology audit and fraud prevention among commercial banks in Kenya.

- Nilniyom, P., and Chanthinok, K. (2011). Accounting system innovation and stakeholder acceptance of Thai listed firms: Mediating internal control effectiveness. *Review of Business Research, 11*(4), 26-37.
- Onumah, J. M., Kuipo, R., and Obeng, V. A. (2012). Effectiveness of internal control systems of listed firms in Ghana. *Accounting in Africa, 12*, 31.
- Oppong, M., Owiredu, A., Abedana, V., and Asante, E. (2016). The impact of internal control on the performance of faith-based NGOs in Accra. *Available at SSRN 2803451*.
- Penrose, E. (1959). *The theory of the growth of the firm* Oxford: Blackwell.
- Power, M. (2004). *The risk management of everything: Rethinking the politics of uncertainty*. Demos.
- Preuss, P. (2013). *School leader's guide to root cause analysis*. Routledge.
- Saunders, M., Lewis, P., and Thornhill, A. (2009). for Business Students FiFth Edition.
- Scott, W. R. (2008). Approaching adulthood: the maturing of institutional theory. *Theory and society, 37*(5), 427.
- Tackie, G., Marfo-Yiadom, E., and Achina, S. O. (2016). Determinants of internal audit effectiveness in decentralized local government administrative systems. *International Journal of Business and Management, 11*(11), 184.
- Tran, T. V., and Noguchi, M. (2020). Public efficiency in Tokyo's metropolitan local governments: the role of asset utilization and budgeting. *Public Money and Management, 1-10*.

APPENDIX

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY DEPARTMENT OF ACCOUNTING AND FINANCE QUESTIONNAIRES

This study is being undertaken for academic purpose and any information given will be treated with the highest degree of confidentiality. The questionnaire is divided into three parts, 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.

PART A DEMOGRAPHICS OF RESPONDENT

1. Gender: _____

[] Male

[] Female

2. Respondent's Age

[] 25-30 years

[] 31-35 years

[] 36-40 years

[] Above 40 years

3. Educational Background of respondent

[] Diploma

[] Bachelors

[] Post-graduate

[] Others

4. Respondent Department

[] Finance and Administration

[] HRM

[] Supervision and Monitoring

[] Educational MIS

[] Accounts Office

[] Internal Audit

[] Others

PART B

On a scale of 1 to 7, with “1” indicating the greatest need for improvements in internal controls and “7” indicating that a strong system of internal controls already exists, select the number that best describes your current operating environment.

1 = Strongly Disagree to 7 = Strongly Agree

	<i>Control Environment Variables</i>	1	2	3	4	5	6	7
5	The adherence to ethical ideals and honesty in financial reporting is a crucial responsibility that must be upheld by senior executives.							
6	Management acknowledges and fulfils its responsibilities for overseeing financial reporting and internal control matters.							
7	The prevailing ideology held by top-level managers and the operational approach adopted by an organization are crucial in facilitating the implementation and effectiveness of internal control measures.							
8	The organizational structure, delegation of authority, and allocation of responsibility inside the corporation are aligned with its internal control mechanisms.							
9	Top managers and employees are allocated appropriate degrees of responsibility and authority.							

10	Human resource strategies and procedures have been implemented to enhance internal controls about financial reporting.							
	<i>Risk Assessment Variables</i>	1	2	3	4	5	6	7
11	Entity-level objectives are effectively bolstered by strategic plans, and their implementation at the operational level has been duly developed and effectively articulated.							
12	Mechanisms are implemented to proactively anticipate, identify, and respond to any deviations that may impact the firm.							
13	The finance department has implemented substantial modifications in auditing standards and International Financial Reporting Standards (IFRS) / International Public Sector Accounting Standards (IPSAS) concerning internal control.							
	<i>Control Activities Variables</i>	1	2	3	4	5	6	7
14	Procedures and guidelines about the company's operations are essential.							

15	The objectives of the budget and other financial reporting statements, as established by management, are clearly defined and effectively conveyed.							
16	Duties are systematically allocated among individual workers to mitigate instances of inappropriate behaviour.							
17	Regular comparisons are made between the actual quantities and the budgeted amounts.							



18	Established policies have been implemented to regulate access to program and data files.							
	<i>Information and Communication Variables</i>	1	2	3	4	5	6	7
19	The establishment and evaluation of information systems are conducted with a focus on aligning them with the strategic goals of the organization, in line with the overall business plan of the company.							
20	The management team allocates and engages appropriate resources to enhance the critical information systems, while also monitoring individual engagement.							
21	The organization has implemented a comprehensive plan for the retrieval and recovery of all its existing files and data in the event of a continuity or breakdown situation.							
22	The management effectively conveys employees' roles and control obligations and has implemented communication channels to facilitate the reporting of any misconduct.							
23	Effective communication inside a business facilitates employees' ability to fulfil their responsibilities, while management diligently allocates time to consider and implement appropriate comments and suggestions provided by clients and other stakeholders.							
24	The establishment and evaluation of information systems are conducted with a							

	focus on aligning them with the strategic goals of the organization, in line with the overall business plan of the company.							
	Monitoring Internal Control Variables	1	2	3	4	5	6	7
25	Periodic assessments of internal controls are conducted, and employees diligently fulfil their usual duties to ensure the ongoing effectiveness of internal controls.							
26	Managers are responsible for the implementation of internal control instructions as stipulated by both external and internal auditors. Any deficiencies identified in reports are promptly addressed and rectified.							
27	The organization employs an internal auditor who oversees and evaluates the activities of the corporation.							

PART C INTERNAL CONTROL EFFECTIVENESS

On a scale of 1-7, please tick [] the response that reflect your level of agreement or otherwise in each of the under listed statements.

Strongly Agree = 7 to Strongly disagree = 1.

S/N	STATEMENTS	1	2	3	4	5	6	7
28	Competent and independent internal audit staff is a fundamental determinant of internal control effectiveness.							
29	Effective internal audit charter is a guarantee of internal control effectiveness.							
30	Frequent internal audit committee meeting is a recipe for internal control effectiveness.							

31	Support from management as well as higher salaries and incentives of internal auditors is a determinant of internal control effectiveness								
----	---	--	--	--	--	--	--	--	--

KNUST

