AKENTEN APPIAH-MENKA UNIVERSITY OF SKILLS TRAINING AND ENTREPRENEURIAL DEVELOPMENT

INTERNAL AUDIT FUNCTION AND FIRM PERFORMANCE; EVIDENCE FROM MANUFACTURING COMPANIES IN KUMASI

FELIX NANA YAW OPOKU

MASTER OF BUSINESS ADMINISTRATION (ACCOUNTING)

2023

AKENTEN APPIAH-MENKA UNIVERSITY OF SKILLS TRAINING AND ENTREPRENEURIAL DEVELOPMENT

INTERNAL AUDIT FUNCTION AND FIRM PERFORMANCE; EVIDENCE FROM MANUFACTURING COMPANIES IN KUMASI

FELIX NANA YAW OPOKU

(7211320006)

A Thesis in the Department of Accounting Studies Education, submitted to the School of Graduate Studies in partial fulfillment of the requirements for the award of the Degree of Master of Business Administration (Accounting) in the Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development

SEPTEMBER, 2023

..

DECLARATION

STUDENT'S DECLARATION

I do hereby declare that this Dissertation was carried out independently by me. I take full responsibility for whatever has been reported here. Related work by others, which served as a source of information has been duly acknowledged by reference to the authors.

Signature …… Date ...…….

(FELIX NANA YAW OPOKU)

SUPERVISOR'S DECLARATION

I hereby declare that; this preparation and presentation of this work was supervised in accordance with the guidance on supervision of the Dissertation laid down by Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development.

Signature …… Date ...…….

(DR. JOSEPH ANTWI BAAFI)

DEDICATION

I wish to dedicate this work to my immediate family Mrs Winnifred Ewurama Opoku, Kiera Kendra Ewurama Opoku, Melissa Nana Akua Sarpomaa Opoku and Denzel Nana Kwame Opoku Asamining for their prayers, invaluable guidance, support and encouragement throughout the preparation of this work.

ACKNOWLEDGEMENTS

I thank God for his guidance and protection throughout this research work. My sincere gratitude goes to Dr Joseph Baafi Antwi my supervisor for his immense support and contribution. I could not have done this work without you. God bless you. I also thank Mr. Kwadwo Amponsah, Adonko Bitters Ltd, Mr. Micheal Yaw Sarpong Vodafone Ghana, and my external family for their support, especially my sister Sharon Opoku. I also thank Mr. E.Y Sarpong for his support in making sure I came out with such a great piece. My special thanks go to my course mates I will be graduating with an in MBA Accounting, Maxwell Marfo, Stephen Akwasi Dimzoeya, and Linda Nyarko for their support and love and all the management and the entire staff of Akenten Appiah-Menka University Skills Training and Entrepreneurial Development for assisting me during this work.

TABLE OF CONTENTS

CONTENT **PAGE**

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

Internal audit plays a vital role in firm performance. The perceived poor internal audit practices mainly caused by lack of independence have resulted in sound corporate governance practices eluding many companies in the Ashanti region; thereby leading to the abysmal performance of manufacturing companies. The study, therefore, seeks to ascertain the practices of internal audit function and firm performance in the manufacturing industry with selected companies in the Ashanti Region, with specific concertration in identifying the impact of internal audit function on financial performance, identifying the challenges associated with internal audit function and identifying the relationship between internal auditing and the performance of an Organization. Adopting logistic and canonical regression techniques as a methodology the objective of this research was demystified and addressed. The primary data collection instrument used in this research was a questionnaire. The target population were 10 manufacturing firms within the Ashanti region, with five (5) respondents from each firm. Results indicate that there is a significant relationship between internal audit and firm performance, internal audit functions encounter a vast number of challenges and there is a positive relationship between internal audit and organizational performance. The findings of the study also revealed that internal audit functions play a critical role in improving firm performance, policy development by management, help to identify risks and ensure compliance. The findings of the study also revealed that there was no policy framework for most manufacturing companies as the source of powers of the Board that strengthens accountability mechanisms and achievement of company goals; with the board undertaking a formal and rigorous annual evaluation of its performance and that of its committees set to check internal control systems.

CHAPTER ONE

1.0 Introduction

In recent times the performance of auditors has undoubtedly fallen short of the expectations of stakeholders and the public at large. To a large extent, these short falls in the business world have brought the need for a good and stronger corporate governance system that will ensure quality financial reporting (Cohen et al. 2004; Carcello et al. 2005). While regulators are increasingly seeking to increase their efficacy, scandals, windups, and unprofitability that have affected firms globally (both acknowledged and undocumented) have prompted management to reevaluate their approach to doing business (Sarbanes, 2002). Ghana in particular, is not free from the necessity of internal auditing in today's corporate environments and the importance of such audits to the operation of such businesses. (Holt and DeZoort 2006) indicated that the internal audit plays a distinctive role in corporate governance by monitoring risks that pertain to the firm and ensuring that all organizational processes are controlled efficiently and effectively. (Schnieder and Wilner 1990) stressed that the function of internal audit deters financial reporting (Hansen 1997). However, irrespective of the integral part of internal audit to the management structure of a company, there is an almost absolute lack of information concerning the existence, composition, activities, and responsibilities of the internal audit function (Gadziala, 2005).

Internal auditing is a technique that uses constructive criticism to increase efficiency and output in businesses. In recent years, businesses have expanded the scope of their internal audits to cover any threats they may face. Fraud, theft, and mistakes were previously reduced with the help of this method. It is generally agreed that an internal audit is necessary for a company to achieve its objectives and stay solvent (Basel

Committee, 2010). When it comes to helping a company reach its objectives and put its plans into action, internal auditing is invaluable (Ljubisavljevic & Jovanovic, 2011).

It has evolved into a straightforward administrative structure that entails little more than perusing paperwork, evaluating operations, and reporting results to a committee of executives, the board, or external auditors. The value of a company rises when departmental goals and interdepartmental communications are optimized thanks to an internal audit (Raja, 2002). (Asare T. 2008) explains the goal of internal auditing is to examine problems within a company or with its processes to improve them. Therefore, it is imperative that all employees have an understanding of the role internal auditing plays in a company's bottom line and overall success. The success of any business is greatly influenced by its internal auditing efforts. It provides services to help businesses of all sizes (both public and private) evaluate and enhance their internal control, risk management, and governance practices. According to the research of (Sarans 2012), "a strong internal audit department enables organizations to secure assets, maintain the accuracy of information, and play a vital contribution in preventing and detecting fraud." The company's physical assets (equipment and property) and its intangible resources (reputation or intellectual property, such as trademarks) are protected in this way.

According to (Chopra 2012), the purpose of internal auditing is to guarantee that the organization is operating effectively and efficiently through the implementation of various checks and controls. Internal audits, checks, and other forms of control are all examples of management's use of internal controls (Abubakar, 2009). As a manager, you'll be responsible for keeping an eye on the company's finances, stock, and employees, as well as making sure that everything runs smoothly inside. The owner of

a privately held company would provide this type of managerial oversight and guidance, while the board of directors of a publicly traded corporation would be responsible for this.

As a result, we can say that an internal audit gives a metric for the A company's internal audit department is crucial since it serves as a cornerstone of the organization's accounting processes, which in turn allows for more accurate performance evaluation. Organizational performance, often known as firm performance, refers to how well an organization does financially, in the market, and for its shareholders (Herciu & Serban, 2018; Yagoobi & Haddadi, 2016). Many internal auditors believe that there is a connection between the manufacturing sector and the effectiveness of an organization's internal audit function. This study, together with other research and data from Kumasi's industrial sector, sheds light on the correlation between internal audit and business success.

1.1 Statement of the Problem

In the intricate tapestry of corporate governance, the internal audit function emerges as a linchpin, intricately woven into the fabric of organizational efficiency, risk mitigation, and financial accountability (DeZoort, Harrison, & Taylor, 2006; Pizzini et al., 2013). This assertion holds particular significance within the dynamic landscape of the manufacturing sector, where intricate operational processes, stringent regulatory requirements, and economic intricacies converge. While extant literature widely recognizes the strategic role of the internal audit function in shaping firm performance (PWC, 2018; Arena, Azzone, & Bengo, 2018), the nuances of this relationship within the context of Kumasi's manufacturing companies remain underexplored.Kumasi, as a hub for manufacturing activities, presents a unique ecosystem wherein the effectiveness of internal audit practices can significantly influence the overall performance of

manufacturing firms (Mihret, Woldeyohanes, & Yismaw, 2016). Despite the general consensus on the importance of internal audit functions, the empirical evidence pertaining to manufacturing companies in Kumasi remains scarce (Ettredge et al., 2011). Consequently, there is a critical need for in-depth research to empirically analyze the extent to which the internal audit function contributes to firm performance in this specific context.Amidst the intricacies of corporate governance, the role of the internal audit function in shaping organizational outcomes has garnered substantial attention (DeZoort et al., 2006; Pizzini et al., 2013). As Kumasi's manufacturing sector assumes a pivotal position in regional economic dynamics, understanding how internal audit practices vary among manufacturing companies and the consequential impact on firm performance becomes imperative (Ettredge et al., 2011).Despite a consensus in the literature on the significance of internal audit practices (Arena et al., 2018; PWC, 2018), there is a noticeable dearth of empirical research specific to Kumasi's manufacturing context. Prior studies emphasize the importance of tailored internal audit practices to the industry (Abbott & Parker, 2000; Bui, 2001), suggesting that the idiosyncrasies of manufacturing processes necessitate nuanced approaches. Therefore, an exploration of how internal audit practices differ among manufacturing companies in Kumasi is pivotal in uncovering industry-specific insights. Research by (The Integrated Business Establishment Survey (IBES) June 2018) emphasizes the significance of revenue growth as a key determinant of firm success. This is particularly relevant in Kumasi, where manufacturing companies may be influenced by global market trends, regional economic conditions, and shifts in consumer preferences.

Profitability metrics, including net profit margin and return on investment, provide insights into a company's efficiency and ability to generate returns for its stakeholders (Smith, 2017). Examining these indicators within the context of Kumasi's

manufacturing sector will shed light on the financial robustness of businesses.Liquidity ratios, such as the current ratio and quick ratio, are paramount in assessing a company's short-term financial health (Ross et al., 2016). In the context of Kumasi, understanding the liquidity positions of manufacturing firms is crucial, especially considering the potential impact of external economic factors on cash flows. Despite the overall economic significance of the manufacturing sector in Kumasi, challenges such as access to finance, currency fluctuations, and market competition may hinder financial performance (Gwartney et al., 2018). Access to finance is particularly critical for capital-intensive manufacturing operations, and exploring the current state of financial accessibility is essential for a comprehensive analysis. Operational efficiency is paramount for manufacturing companies in Kumasi to remain competitive. The effective utilization of resources, streamlined production processes, and supply chain management contribute significantly to operational success (Womack & Jones, 1996). The integration of technology into manufacturing processes is a key driver of operational excellence (Porter & Heppelmann, 2014). Assessing the current state of technological adoption within Kumasi's manufacturing sector provides insights into the sector's readiness for Industry 4.0 and its potential impact on operational performance. Risk-based internal auditing has been identified as a crucial factor influencing firm performance (Moeller, 2013). By aligning internal audit activities with the strategic objectives and risk profile of the organization, companies can proactively identify and mitigate risks, thereby enhancing their overall performance. In Kumasi's manufacturing context, where external economic factors and market dynamics may pose unique risks, understanding the impact of a risk-based internal audit approach is essential (Moeller, 2013; Sawyer, 2003). The integration of technology into internal audit processes is gaining prominence globally (CIMA, 2016). In Kumasi's manufacturing sector, where

technological advancements can significantly impact efficiency and effectiveness, the utilization of data analytics, artificial intelligence, and other technological tools in internal audit practices may have a more pronounced influence on firm performance (ISACA, 2020). Adherence to compliance standards and alignment with regulatory requirements is paramount for manufacturing companies, especially in industries with stringent regulations (IIA, 2017). Internal audit functions that are adept at ensuring compliance not only mitigate legal risks but also contribute to building a robust corporate reputation, thereby positively influencing firm performance (IIA, 2017; Abbott & Parker, 2000). Despite the potential benefits, challenges such as resource constraints, skill gaps, and resistance to technological adoption may impede the effective implementation of advanced internal audit practices in Kumasi's manufacturing sector (PwC, 2019). Understanding these challenges is crucial for devising strategies to overcome barriers and enhance the impact of internal audit functions on firm performance. Identifying opportunities for improvement in internal audit practices is equally critical. Training and upskilling internal audit teams, leveraging external expertise, and investing in technology infrastructure are potential avenues for enhancing the effectiveness of internal audit practices in Kumasi's manufacturing companies (IIA, 2017; PwC, 2019)

1.2 Purpose of the Study

The purpose of the study is to investigate the existence and nature of the internal audit, identify the numerous elements influencing organizational performance, and establish a link between internal auditing, its application, and the performance of a few chosen manufacturing companies in Kumasi, Ghana.

1.3. Research Objectives

- To identify the impact of internal audit function on financial performance.
- To identify the challenges associated with internal audit function.
- To identify the relationship between internal auditing and the performance of an Organization.

1.4. Research Questions

- To what extent does the internal audit function influence financial performance?
- What are the challenges associated with internal audit functions?
- What is the relationship between internal auditing and the performance of an Organization?
- **1.5. Significance of the Study**

The study makes a significant addition to the understudied organizations in particular because management will be able to choose the optimal method for reducing fraud and errors in order to meet and improve organizational goals and performance. Researchers and academics will benefit even more from the study because they can use it as a starting point for additional research and studies. The information gathered will significantly increase the currently deficient body of knowledge regarding the effects of internal audits on the performance of organizations in Ghana, especially those in the manufacturing sector, and will provide data banks in the auditing industry with another source of information. It can also be utilized in higher education learning centres and centres for information and resources.

1.6. Limitations of the Study

Ghana has a sizable number of manufacturing businesses. However, given to time and resource limitations, the study is limited to manufacturing businesses that are present in the Kumasi Metropolis.. Furthermore, the time allowed for the conduct of this study

seems to be too condensed in the sense that the researcher will have to undertake other activities relating to academics. It is why, even though, the researcher had to utilize the scheduled time, in consequence, to ensure this study was accordingly achieved.

Unwillingness on the part of some respondents to give out information that they consider delicate and private to the organization was also another challenge.

1.7. Scope of the Study

There are many Manufacturing institutions in the country but the researcher limited himself to manufacturing institutions in Kumasi because of proximity and time constraints. As the study is centred on the effect of internal audits on manufacturing firms in Kumasi, the research covers all manufacturing firms in this region in other to ascertain whether auditing has an effect on the manufacturing industry within this region.

1.8. Delimitation

The internal audit function and business performance were the main foci of the study, which also included information about manufacturing firms in Kumasi but was only able to include those that were covered by insurance. It was necessary to reduce the study's scope both geographically and economically due to the study's time constraints and restricted resources. The investigation is therefore restricted to Kumasi's manufacturing businesses.

1.9 Organization of Study

In the first chapter, the research issue is introduced along with the study's background, problem, purpose, and objectives statements. Additionally, it gives details on the significance, restrictions, delimitations, and design of the study, as well as the research questions. The overview of internal audits is covered in Chapter 2, along with a review of relevant theories and literature. In chapter three, the methodology—which covered

the design and approach used to conduct the research—was examined. The population and sample, the research tools and methods used to acquire data in chapter four, and the analysis and discussion of the data are covered. Chapter 5 summarizes the conclusions, recommendations, and areas for additional investigation.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

This chapter reviews the existing literature relevant to the study. It examines the theoretical relationship established between the independent and the dependent variables of the study as well as the conceptual issues emanating from the theories. Some empirical literature on the subject is also reviewed.

2.2. Concept Review

2.2.1. Scope and Concepts of Internal Auditing

Internal auditing's roots can shed light on the practice's true nature. Internal auditing as we know it today began to take shape in the United States in 1941, with the founding of the Institute of Internal Auditors (Institute of Internal Auditors, 2023) dedicated to the profession. The point here is not to debate the merits of various definitions of internal audit, but rather to demonstrate how perspectives on internal auditing's place in modern businesses have evolved. This discussion will begin with the Institute of Internal Auditors' 1947 definition.

Independently evaluating operations within a company is what "internal audit" aims to do, per the Institute of Internal Audit. A protective and helpful support role for management, it was set up to look over accounting, finances, and other operational tasks. It serves its purpose as a control method by assessing the efficiency of alternate control strategies. According to the (Internal Auditing Institute 2013). There has never been a more up-to-date definition of internal audit than this one.

Core Values, Definition and Code of Ethics for Internal Auditing, International Standards (hence referred to as The Standards), Internal Auditing Standards, and Professional Standards for the Conduct of Internal Audits; references to the Institute of Internal Auditors' Practice Guide, Practice Advisories, and Position Papers. According to (Waller and Whittington 2008), the IPPF Standards can serve as a guide for internal auditors worldwide .

The main objective of internal auditing is to enhance and improve a firm through consulting and assurance services offered by an outside party. Internal auditing, according to the(Institute of Internal Auditors 2013), contributes to the success of firms by methodically and systematically examining how well risk management, control, and governance procedures are operating.

When conducting an audit, an internal auditor has the final say thanks to the Standards and definition. The definition of internal auditing highlights improving the quality of information used for decision-making as one of its primary goals. This can only be done if the internal auditor is completely integrated into the business activities (Bou-Raad, 2000).

A tried-and-true management technique, internal auditing has been adopted by businesses of all sizes and across a variety of sectors. Whether public or private, every kind of business has had to deal with it for many years. Even though this kind of monitoring is the responsibility of other functional managers, management often takes the glory for the findings. An internal audit's scope could include all aspects of a company. Instead, it encompasses all facets of the business and answers directly to the CEO (Okezie, 2004).

By incorporating risk management, control, and governance processes, internal audits can be made more collaborative and oriented on enhancing operational efficiency and

effectiveness. This implies that a diverse range of skills are needed in the field of internal auditing nowadays in order to succeed. (Bou-Raad 2000) defines internal auditing as complying with a number of standards, the most crucial of which are the auditor's independence and objectivity, the audit's scope, the caliber of the auditing, and the auditor's skill.

Internal auditing, according to (Saud and Marchand 2012), is a consulting activity that seeks to add value and enhance an organization's operations. This strategy can be advantageous to a business because it adopts a methodical, disciplined approach to assessing and improving its risk management, control, and governance procedures.

Because they assist close the gap between daily operations and financial reporting, internal audits are essential for enterprises and NGOs (Reynolds, 2000). Monitoring the company's risk profile by internal auditors can help with risk management (Stewart & Kent, 2006). An internal audit is carried out in order to provide the business with useful feedback for self-improvement. Internal auditing is a component of an organization's internal control system, according to (Unegbu and Obi 2007), and it aids in ensuring that specified procedures are followed and that management receives the support it requires.For a company to succeed, internal assurance and business review processes like internal audit must work together. Assuring CEOs and boards that management is carrying out its duties and moving the firm closer to its objectives through additional activities like monitoring, assessments, quality assurance, and control self-assessment systems (Australian National Audit Office, 2012). While an expensive process, auditing is essential for reducing information risk. The unknowable quality of the data that a firm depends on is known as information risk.

(Bhatia 2003) defined internal auditing as "the periodic review of business processes and records by specially appointed employees." Additionally, organizations regularly

employ an independent appraisal function to evaluate the worth, effectiveness, and efficiency of their management control systems (Subramaniam, Zain, & Stewart, 2006). The technique is intended to instill confidence in senior management that their internal control systems are well-designed to achieve their objectives and are operating effectively (Reid & Ashelby, 2002). The company's internal controls include this as a key component. According to (Bhatia 2003), internal auditing is the routine review of documents and processes conducted by staff people who have the necessary training. The value, effectiveness, and cost-effectiveness of the management control system may have been further examined and evaluated by an independent appraisal position formed within the organization (Subramaniam, Zain, & Stewart, 2006). This procedure's objective is to reassure top management that their organization's internal control mechanisms are adequate for their purposes and operating as planned (Reid & Ashelby, 2002). Internal auditors engage in a wide range of activities, not all of which will be related to the accounting topics that the external auditor addresses, hence it is essential that internal audit procedures are of high quality and effectiveness in practice.

2.2.2. Concept of Firm Performance

It's a part of how the internal control system is set up. According to (Bhatia 2003), employees who have been given specific duties inside an organization may occasionally conduct internal audits to assess the efficacy of those duties and the accuracy of the data they collect. The advantages, efficacy, and cost-effectiveness of the management control system may also be investigated and evaluated by a distinct assessment division within the company (Subramaniam, Zain, & Stewart, 2006). Its goal is to reassure top management that the company's internal control structures are sufficient for their needs and are performing as intended (Reid & Ashelby, 2002). Accounting and other controls inside an organization need to be monitored, assessed, and reported on for this to

happen. Because of this, internal auditing processes must be both efficient and thorough. Investments in projects, the use of in-house resources, and losses could all render a direct relationship between weather and the company's bottom line highly unlikely. Any positive results from an entrepreneur's efforts will have an impact on a company's bottom line in the future, but it won't be noticeable in the near term. As of (2005 Hayton).

Managing a company's finances effectively involves determining which investments will yield the greatest return, both in terms of the company's market worth and its ability to continue operating. Finance managers are responsible for optimizing the return on the company's assets while minimizing the associated risk. Alomoush, A., and A. Al-(Shubiri 2013) explain that this is achieved through "realizing the proper blending of financial resources," which drastically lowers capital expenses.

According to (Alomoush and Al-Shubiri 2013), investment is crucial for the development of a country's economy and its associated infrastructure. Particularly in the case of securities issued by firms, investors have a wide variety of options to choose from; stocks stand out as a major tool used to fund the held capital of companies.

Because of their significance and the fact that they frequently relate to time frames that can extend for several years, decisions involving investments need to be carefully thought out. With the hope of future gains, financial investment decisions are ones that are taken today. Since it is well known that it is difficult to predict the future with absolute certainty, these risky decisions necessitate the adaptation of information to evaluate the financial performance of the parties issuing shares so that the investor can understand market prices; this is analogous to increasing returns from the profits of these shares, whether they be capitalist or periodic, and increasing the market price of these shares. A range of financial performance indicators are used by investors,

including more contemporary ones like economic value added (EVA) and market value added (MVA), which have recently attracted the attention of those concerned about money and investment. Traditional profit-based metrics such as return on assets (ROA) and cash-flow metrics are among the other financial performance indicators. that is made (Alomoush & Al-Shubiri, 2013).

(Alomoush and Al-Shubiri 2013) also highlighted the elevated importance of research into Amman Stock Exchange-listed companies due to the prevalence of numerous cutting-edge financial performance indicators like economic value-added and market value-added as well as other indicators based on profits or cash flows.

(Ross 1973) emphasized that shareholders, also known as owners' equity, tend to be many, with individual shareholders typically holding only a fraction of the company's total stock. Since the shareholder has no vested interest in the company's management, the latter are free to act in a way that is counter to the best interests of the company's stockholders. An increasingly crucial factor in business performance is whether or not a company's methods of corporate governance are consistent with international norms. Therefore, in today's globalized market, proper corporate governance is essential for every firm to be successfully managed. However, the problems that "corporate governance" seeks to address have been existed for much longer than the word "corporate governance" has been in use. However, in the last two decades, concerns about corporate governance have emerged as major topics in both the scholarly and policymaking communities. Institutional investors' activism, takeovers, and monetary reorganization have all been linked to "corporate governance" in recent years (Ross, 1973).

Research by (Mcshane, Nair, and Rustambekov 2011) found that firm value is the most reliable criterion for determining whether or not a company is performing well. When

calculating a company's worth, the market looks at its book value. In addition, the study by (Nishikawa, Kamiya, and Kawanishi 2016) elaborated that net income is arrived at by deducting sales from costs of sales, general and administration expenditures, operational expenses, depreciation, interest, taxes, and other expenses. The bottom line of the profit and loss statement is where you may get a good idea of how well your business is doing. To that end, proponents of good corporate governance have been vocal about the importance of the Internal Audit Function in ensuring reliable financial statements (Daugherty, 2015).

2.2.3. Concept of Internal Auditing and Firm Performance

Due to their significance and the fact that they are frequently dependent on time frames that might endure for several years, decisions relating to investments demand careful analysis. Making financial investment decisions with the hope of future gains is a common practice. It is well known that it is challenging to make predictions about the future with complete accuracy. As a result, these risky decisions necessitate the adaptation of information to evaluate the financial performance of the parties issuing shares so that the investor can understand market prices; this is analogous to increasing returns from the profits of these shares, whether they be capitalist or periodic, and increasing the market price of these shares. Investors employ a range of financial performance measures, including more contemporary ones like economic value added (EVA) and market value added (MVA), which have recently attracted the attention of individuals concerned with money and investment. Traditional profit-based metrics like return on assets (ROA) and ones based on cash flow are among the other financial performance metrics. it is claimed (Alomoush & Al-Shubiri, 2013).

The prevalence of numerous cutting-edge financial performance indicators, such as economic value-added and market value-added as well as other indicators based on

profits or cash flows, as well as other factors like the increased importance of research into Amman Stock Exchange-listed companies, was also highlighted by (Alomoush and Al-Shubiri 2013).An unbiased and objective evaluation of the financial reporting system and financial reporting is the responsibility of financial auditors. This sort of confidence is exactly what financial audits are supposed to provide for the benefit of investors, regulators, directors, and management (Hawks, 2018).According to (Hawks 2018), financial audits offer some comfort but are far from ironclad. Financial auditors use techniques including interviews, observations, and tests to ascertain whether or not the controls and procedures needed to produce accurate financial statements are in place. People have confidence in the economy as a result of this. According to (Roy 2016), the purpose of a financial audit is to render an opinion on whether or not the information being reviewed (the "financial statements") is stated in compliance with specified standards. Auditors can nevertheless examine financial statements prepared on a cash basis or another appropriate accounting basis. The role of the auditor is to ensure that the financial statements are true and accurate and follow generally recognized accounting principles.Most audits are conducted by specialized accounting firms that deal specifically with financial reporting, as (Roy2016) emphasizes. Accounting firms offer a variety of assurance services, including financial audits. Instead of hiring external auditors, many businesses look inside, hiring internal auditors whose job it is not to verify the integrity of financial reports but rather to examine the effectiveness of the company's internal controls (Roy 2016).If a firm wants to assure its stakeholders that its financial statements depict the company's situation and performance fairly and properly, an audit is necessary, per (Ingram 2019). While the primary audience for financial statements is shareholders, additional interested parties include creditors and regulators as well as tax authorities, customers, suppliers, and

even staff. Inasmuch as an audit just samples transactions and balances, it does not guarantee that the financial statements are accurate; but, it does lower the risk of a substantial financial statement error, whether due to fraud or error. This demonstrates to the company's many constituents that the company has prepared comprehensive financial statements that accurately reflect the company's true financial condition.

2.2.4. Performance audit

The identification of fraud, waste, and abuse is sometimes but not always within the purview of performance audits. Before beginning a performance audit, an auditor needs to establish a scope and plan. According to(Kenton 2018), a performance audit is an independent assurance service that guarantees the success of a variety of projects and programs, not only in terms of the organization's financial and operational efficiency and effectiveness, but also with regard to environmental and equity concerns. The purpose of a performance audit is to identify areas for enhancement and assess the likely results of those alterations. Sound financial management incorporates financial audits, monitoring, and appraisal.(Kenton 2018) in addition, stresses the importance of market rivalry as a driver of private sector audit demand. The more intense the competition in our client's industry, the more useful an audit will be to their business. A performance audit, like internal audits, controls, and dashboards, is a management tool with the overarching goal of enhancing the quality of the business. During a performance audit, we look into the inner workings of our client's business. For ethical and ecological reasons, we advise our customers to maximize their returns by minimizing waste and maximizing productivity.However, if internal auditing procedures are followed to the letter, it can boost a company's productivity. If auditors are professional and impartial in their pursuit of better risk management by adhering to rules and regulations for

smooth operation, as is required by internal audit standards, then financial performance will increase. "(Anderson, 2013)

2.3. Theoretical Review

A theory is a "collection of interrelated concepts, definitions, and assertions that give a systematic picture of events or situations by constructing relationships among variables" in order to explain and predict occurrences or circumstances (Ryn & Heaney, 1992). These methods were divided into two categories for this review: institutional theory and contingency theory. These theories can be used to explain business performance.

2.3.1. Institutional Theory

Institutional theory arose as a study tradition from foundational publications describing how the theory of the time claimed that organizational formation and evolution were driven more by functional concerns than by symbolic activities and external pressures (Meyer & Rowan, 1977). One alternative explanation for how control procedures are implemented and developed inside companies can be found in institutional theory. According to this hypothesis, businesses would only implement management and information systems that are widely accepted within their industry (Etengu & Nasieku, 2015).According to (Arwinge 2013), management considers management fads, industry conventions, and business traditions when adopting and implementing new control techniques rather than focusing solely on cost-benefit analysis and risk-reward trade-offs. The institutional theory (Cook & Clemens, 1999) describes how a practice spreads throughout a group or organization and becomes standard operating procedure. In other words, as praised by (Dacin, Goodstein, & Scott, 2002), institutionalization leads to widespread adoption of best practices.

Institutional theory examines the ways in which normative forces from both inside and outside of an organization (such as legislation or professional standards) shape organizational structures and practices (Zucker, 1987; Mihret, James, & Mula, 2010). Concepts that regulate an institution serve as the building blocks of institutional theory. The central tenet of institutional theory is that businesses adopt best practices because they boost their credibility and efficiency (DiMaggio & Powell, 1983).

According to (DiMaggio and Powell 2000), a novel approach to the analysis of social, economic, and political dynamics is provided by institutional theory. Society's norms and expectations are codified by its institutions (North, 1991). Those norms include the official and informal institutions of the private and public sectors, among others. Traditional sociological theories are being expanded upon by new institutional understandings (DiMaggio & Powell, 1983; Scott, 1995). These recent discoveries highlight the significance of the existing institutional backdrop, which is thought to shape organizations and their subsequent success.

If the organization's institutional framework is working properly, it can also lower transaction costs, uncertainty, and risk for business owners and the company as a whole. The ease of entering a market, and the market's eventual success, are both influenced by a country's legal structure. However, progress may be stifled by a legal system that is inadequate or poorly implemented. Corruption and other forms of non-objective behavior on the part of entrepreneurs have been linked to areas where institutional inadequacies allow for arbitrary behavior (Puffer, McCarthy, & Boisot, 2010; Smallbone & Welter, 2001). In addition, informal connections like neighborhood networks develop as a result of imposed regulations (Khanna & Palepu, 1997). Thus, entrepreneurial activity can manifest itself despite being unrecognized by law (Klapper, Laeven, & Rajan, 2006).

As (DiMaggio and Powell 1983) pointed out, "rational actors make their organizations increasingly similar as they try to modify them." Moreover, DiMaggio and Powell emphasized that coercive pressures, normative pressures, and mimetic pressures are three mechanisms that constitute "institutional isomorphic change," and that they all have similar impacts on an organization. The influence of the outside world on individuals and groups was further emphasized by (Arena and Azzone 2007). Rules and regulations are an example of coercive isomorphism, while decisions made by other organizations are an example of mimicry isomorphism, and consultation with professional bodies is an example of normative isomorphism.

Because the isomorphic components influence firm performance, as (Al-Twaijry, Brierley, and William 2003) argue in their study, careful exploration and implementation of institutional theory in organizations does aid in the overall realization of institutional goals and objectives. Additionally, normative isomorphism and coercive isomorphism more effectively explain why internal audits are successful. The coercive isomorphism model put forth by (DiMaggio and Powell 1991) contends that the relative strength of the internal audit function within the company determines how effective internal audit is.

2.3.2 Contingency Theory

The study of organizational behavior from a contingency theory perspective explains how elements like technical developments, cultural norms, and the general social and political environment influence the creation, operation, and objectives of enterprises and other organizations. The concept that no single organizational form is universally applicable serves as the cornerstone of contingency theory. Instead, an organization's performance depends on how well its technology, environment, size, structure, and information system all work together. This school of thought was founded on structural

methodologies in organizational studies, such as the sociological functionalist concepts that gave rise to contingency theory (Woods, 2009).

Contingency theory has evolved into a typical tool for academics in this area due to its base in a number of important ideas from the literature on organizations (Sauser, Reilly, & Shenhar, 2009). The direct interactions between independent and dependent variables in the study of organizational behavior are explained by the contingency theory. According to the literature (Lombardo, 2013), independent variables (x) are those that cause a change in the dependent variable (y), whereas dependent variables (y) are those that are changed as a result of an independent variable. According to the literature (Chenhall, 2003), "contingency" refers to a situation in which a certain outcome is valid only under specific circumstances. Another definition of "contingency" is a situation in which the impact of one variable on another is dependent upon the presence of a third variable (Donaldson, 2001).

An audit looks at all of the above to ensure that they are as dependable as feasible. The government mandates financial audits for some financial institutions even if corporate requirements may call for audits in other areas like safety and technology. The contingency theory considers every element that could affect an organization's bottom line. The type of organizational activity, organizational technology, and market circumstances are all regarded to have an impact on the ideal organizational structure. The results support the claim stated by (Drazin and Van de Ven 1985) that contingency theory is an appropriate framework for describing organizational performance. The historical importance of contingency theory is demonstrated in this manner.

According to the contingent theory of leadership and management, there is no one best way to lead, control, or manage a business or other organization. Numerous internal and external factors could have an impact on how successfully businesses operate and

the services they provide. The environment has an impact on auditing activities because they are a special form of organization. By acknowledging that auditing methods and results depend on many and contingent circumstances, the contingency theory can be used to their management.

Therefore, the primary goal of this study is to demonstrate that the contingency theory is the most effective way to explain why internal audits are successful. However, (Schoohoven, 1981) identified five issues with the theory, one of which is a lack of clarity brought on by the theory's reliance on a few assumptions. In a similar spirit, (Drazin and Van de Ven 1985) acknowledged that contingency theory cannot reconcile theoretical and empirical problems. Despite the criticism mentioned above, (Sauser et al. 2009) asserted that the contingency theory has the potential to surpass conventional achievement since it contributes significantly to successful project management and protects against failures. This demonstrates the strength of the contingency theory even in the context of accomplishing project management goals by the researchers (Sauser, Reilly, and Shenhar 2009).

Many studies have been done using the idea of contingency, some of which showed a negative association between the use of technology, organizational structure, and the productivity of work groups. Similar to this, (Ayman, Chemers, & Fiedler, 1995) used contingency theory to predict that a leader's efficacy is influenced by his motivational orientation and situational controls. (Kriger & Seng, 2005) examined contingency theory from a religious perspective and came to the conclusion that a leader's success can be influenced by both his or her own personal values and the teachings of the world's five major religions (Islam, Buddhism, Christianity, Hinduism, and Judaism).

The Contingency Approach to Internal Audit Effectiveness

Recent study shows that the contingency theory has been receiving greater attention in the field of accounting and auditing (Abushaiba & Zainuddin, 2022; Badara, 2015; Ninlaphay & Ngamtampong, 2013; Reid & Smith, 2000; Valanciene & Gimzauskiene, 2009). According to (Cadez and Guilding 2008), the contingency theory is used to define the relationships between the external environment, internal control structure effectiveness, and a company's performance, especially the dependability of financial reporting.

Auditing is often a simple procedure. For an auditor to oversee an audit effectively, they must have access to pertinent records, systems, regulations, and processes. Compliance with accepted norms, laws, and business rules must always be maintained. Risk and control awareness workshops may be the first step in the procedure before the team goes out into the field for the real audit. Auditors perform in-depth procedures and control evaluations during an audit. In order for management and the administration to evaluate their work, they then create reports. The type of firm, employee skill level, applicable legislation, audit workforce availability, audit workforce technology and systems, and deadline are only a few of the factors that affect the audit during its preparation and fieldwork phases.

Task-based, auditing tasks can have a variety of organizational structures. Auditor inspections therefore require thorough planning and consideration of a variety of elements in order to be successful. The tasks may also vary considerably based on the business model used and the sector of the organization that is being audited. Setting up an audit team is a different situation where the contingency theory might be used. Typically, audits are delegated to the management of the audit team. After that, they

assembled ad hoc audit teams for the projects, filling them with auditors based on their availability, areas of specialization, and comprehension of the audited areas.

Effectiveness is just one of the many contexts in which contingency theory is useful. Researchers have utilized contingency theory to examine organizational success (Haldma & Laats, 2022; Kim & Umanath, 1993; Kepes, Delery, & Gupta, 2009); (Nicolaou A., 2013). Using contingency theory as an illustration, Nicolaou A., 2000 evaluated accounting information systems. The three elements that determine whether such a system will be successful were discovered to be the level of organizational formalization, the interdependence between the organization's many functional divisions, and the level of interconnectedness among other organizations. Another aspect that affects how well accounting systems work is their capacity to adapt to both internal and external changes (Haldma & Laats, 2002).

Further, (Kim and Umanath 1993) found that both the control structure and the decision-making structure needed to be moderated for tasks to be realized in terms of perceived efficacy. Additionally, the researchers of the (Kepes et al. 2009) study found a correlation between employee pay and productivity. Similar to the theory of probability, the theory of contingency contends that the interconnectedness of numerous systems, including performance evaluation, determines a company's likelihood of success (Haldma & Laats, 2022). Consequently, the experiments listed above have demonstrated how contingency theory has an impact on success. As a result, the goal of this research is to determine how to improve internal auditing's efficacy. The study went on to use contingency theory to predict that a number of modifying factors have an effect on how successful an internal audit is.

Numerous research have provided evidence in support of the variables in the study of contingency. Among these considerations are the competitiveness within the industry,

the complexity of the company, the unpredictability of the environment, the scale of the company, and board of director monitoring. All of these elements, in accordance with the research by (Gordon, Loeb, and Tseng 2009), have a favorable, significant contingent effect on the relationship between enterprise risk management and company performance. (Jokipii 2010) used contingency theory to assess the effectiveness of internal control mechanisms. Along with the size of the company, how uncertain the environment was viewed, the organizational structure, and the strategy, the internal control structure was utilized as a mediating variable to assess the overall effectiveness of the internal control system. Except for size and structure, the study's variables all displayed significant contingent correlations.Results (Krishnamoorthy, 2008) showed that audit committees had a negligible influence on the communication between internal and external auditors. But when it comes to audit success, (Sudsomboon and Ussahawanitchakit 2009) employed contingency theory and found that the following elements are all necessary preconditions: stakeholder force, professional regulation, audit reputation, audit quality, and professional competitiveness.This demonstrates how crucial contingency theory is to the auditing process. The study found that organizational support is also necessary for internal audits to be effective (Endaya & Hanefah, 2013). The success of the internal audit department and the internal auditors' ability to exhibit specific qualities will determine how much help they receive. The effectiveness of performance assessment in the internal audit function has been demonstrated to be influenced by contingency theory, according to a (2015 study by Badara).The foundations of the contingency theory, which stresses the relationship's structure rather than its substance, state that a consistent relationship is more advantageous than an inconsistent one (Fry & Slocum, 1984). The difference between a contingency theory and other theories, however, is the projected conditional

relationship between two or more independent factors and a dependent variable, which is then empirically supported (Drazin & Van de Ven, 1985). The moderating or mediating effects of the research variables can also be investigated similarly using contingency theory (Heo & Han, 2003). According to (Ayman, Chemers, and Fiedler's 1995) definition moderating variables are those that significantly weaken the relationship between the independent and dependent variables. In light of this, it is clear that the contingency theory can offer a useful framework for evaluating the effectiveness of internal audits.

2.4. Empirical Review

The primary objective of this study is to evaluate the impact of internal audit on business results by synthesizing the findings of several authors and academics who have written works on the subject of internal audit and the effectiveness of organizations. In the 1940s, Ethiopia introduced the concept of internal auditing, which was quickly followed by other countries. The efficiency of internal audits, especially in the manufacturing sector, has been questioned for a variety of reasons in Ghana. The current state of internal auditing in this setting has been investigated using a number of different methods. Different types of companies and organizations are discussed in each article. In order to evaluate the strength of the available data, we have compiled the most important findings and suggestions from a number of related prior studies in the following way:

Many independent analyses have concluded that the internal audit function, together with the board of directors, the audit committee, and the external auditors, is a crucial part of any well-functioning corporation's system of checks and balances.

sprinter's jog (Raja, 2002) Using interviews with 36 major groups of internal audit stakeholders such as members of the audit committee, senior management, internal audit supervisors, and outsourcing partners of major accounting firms, (Man & Duncan 2018) discuss the concept of internal audit function quality from the perspective of multi-stakeholders. in accordance with predetermined standards of quality. According to (Trotman and Duncan 2018), the focus on quality assurance is shifting from external to internal audits. According to Trotman's findings, opinions on how efficient the Internal Audit Function is vary widely.

By constructing a cross-sectional regression model from prior audit cost research, (Gramling 2002) shown that internal audit contribution is a significant factor in external audit expenses. Not only that, but he also constructed a model to demonstrate the impact of internal audit on company performance. The model found that management endorsement of internal audit quality was a strong predictor of employee satisfaction with external audits.

Audit effectiveness can be improved with the use of quality internal auditing, as mentioned by (Sarens 2009). The importance of audit work quality, audit scope, internal audit independence, and an adequate and skilled internal audit personnel, among many other factors, is examined in depth.

The purpose of (Junio-Sabio's 2013) research into the current state of internal auditing in a few Philippine government agencies was to influence policy advocacy there. The researcher used a descriptive survey design, and the respondents were mostly the chiefs of auditing departments from the several government entities under examination. According to the 2016 report of the Association of Government Internal Auditors, 44 NGAs had internal auditing departments. Forty (40) institutions from the following sectors were chosen using the Slovene method: government-owned and controlled

corporations, legislative bodies, constitutional commissions, and judicial services. The results indicate that the fundamental internal auditor functions are routinely carried out by the Philippine bureaucracy. The attribute standards established by the Institute of Internal Auditors are automatically incorporated into these procedures.According to studies conducted by (Alzeban and Sawan 2013), high management in the Saudi Arabian government does not fully support the internal auditing department's efforts. Their research utilized 29 semi-structured interviews in addition to archival and documentary evidence.

In addition, a high-quality internal control system has been linked to a company's bottom line (Van Peursem, 2004). This is consistent with our expectations for the investigation's findings. Increased efficiency and regulatory compliance, improved confidence in financial statements and other data, and reduced risk of theft and loss are all possible thanks to effective internal controls. (Anderson's 2013) findings are consistent with those of other researchers who have discovered that companies with more difficult-to-audit levels of control tend to report lower-quality earnings; additionally, Anderson's findings explore the connections between the disclosure of material weaknesses and fraudulent earnings management or restatement. Internal auditing was studied by Malaysian researchers (Ali, Gloeck, Ali, Ahmi, and Sahdan 2007). Challenges faced by the internal audit function in the Malaysian public sector include a lack of management support and auditor indifference. Additionally, (Ali, Gloeck, Ali, Ahmi, and Sahdan 2007) noted that many organizations' non-audit personnel and higher management are often unsupportive of internal audit. (Sarens and DeBeelde 2006) found that when management fully backs an internal audit, it becomes more closely aligned with management's aims and objectives. (Mary 2007) found that when upper-level management backs internal auditing, employees of all ranks become

more receptive to the concept. Having management back internal audits and recognize their value will lead to more employment for consultants. An internal audit reveals that workers' reactions are heavily swayed by the viewpoint of management.

In order to better understand the effect of internal audits on business outcomes, (Albkour and Chaudhry 2017) polled 145 bank workers in Jordan. There is strong evidence that internal audits improve the effectiveness and efficiency of business processes in a variety of financial organizations. As pointed out by (Lindsay 2015), sound internal controls aid financial institutions in addressing agency issues, decreasing agency expenses, and avoiding scandalous profit reporting that could lead to wasted expenditures.

In line with (Emasu 2010), "the effectiveness of internal audit function depends in part on legal and regulatory framework, placement of the function and its independence, existence of audit committees, resources allocated to the function, and professionalism of internal audit staff." A lot of times, internal audit departments don't have the resources they need to conduct their tasks properly.

Contrary to what one might expect from traditional agency theory, which posits that larger businesses will have a harder difficulty creating an effective internal auditing system, new research on profit management suggests otherwise. It appears from this study that a more engaged management team can persuade the board of directors to fund more extensive Internal Audit Functions, allowing for closer supervision of executives. In order to properly monitor earnings and show the board of directors that, despite their significant stake in earnings, they are convinced that appropriate use of resources has to be examined regularly, management with higher share ownership may be prompted to invest in a larger Internal Audit Function.

Based on their study of American businesses, (Wallace and Kreutzfeldt 1991) found that those with internal audit departments were more likely to be large, highly regulated, competitive, profitable, liquid, conservative in their accounting policies, competent in their management and accounting personnel, and subject to better management controls.

(Arena and Azzone 2007) conducted a study of 364 Italian enterprises and found that isomorphic constraints significantly affected company support for internal audits. With the use of institutional theory, this study argues for further research into the benefits of conducting internal audits. Compliance with the International Standards for the Professional Practice of Internal Auditing (ISPPIA), as argued by (Mihret, James, and Mula 2010), is positively correlated with the achievement of corporate goals and thus provides a criterion by which the efficacy of internal audits may be evaluated. (Dahir and Omar 2016) also looked into the effects of internal auditing on the success of Somalian businesses. Data was gathered from 200 individuals who completed questionnaires with Likert scales. Our research shows that there is a robust correlation between internal audit and financial results for an organization.

Another study by (Brieley, El-Nafabi, and Gwilliam 2001) found that the multiple government agencies responsible for conducting internal audits rarely work together. Research evaluating the challenges of implementing internal audits in the Sudanese public sector was undertaken through in-depth interviews and on-the-ground observations.

(Arefayne 2019) did a mixed-methods study to determine what factors affect the efficacy of internal audits in Ethiopian insurance firms and concluded that independence of internal audit was the most critical component. It appeared from the findings that the National Bank of Ethiopia, the country's financial regulatory authority,

may take more steps to ensure the independence of its internal auditors. His research shows that the value-added role of internal audit, the performance of particular departments, and the performance of the overall company are all substantially impacted by the competency of internal audit teams and the quality of internal audit. While it is true that many factors contribute to the success of an internal audit, (Aytenew 2018) suggested that the quality of the audit work and the auditor's professional skills were essential considerations. (Aytenew 2018) analyzed primary data gathered through random sampling to infer that the quality of the audit work, the independence of the auditor, the auditor's professional proficiency, and the organizational setting greatly affect the efficacy of internal audit. But he asserted that the internal audit's rigor would be unaffected by the company's size. In 2018, using a combination of purposive sampling, questionnaires, and interviews, Yewubnesh conducted study titled "Determinants of Internal Audit Quality of Economy Budgetary Public Sectors in Ethiopia." She came to the conclusion that the expertise and knowledge of internal auditors, the independence of internal audit, and the degree of training received by auditors all had substantial impacts on the quality of internal audit in Ethiopia's monetary public sector budget.

(Kolawole, Dairo, Jacob, and Argbesola 2020) analyzed the internal audits and financial outcomes of numerous consumer goods manufacturing firms listed on the Nigerian stock exchange. The results indicate that internal auditing is strongly associated with business success. There is potential for improvement in auditor professionalism, competence, and organizational financial performance, according to the report. (Agwor 2017) studied the relationship between preventing fraud and profitability in publicly traded Nigerian manufacturing companies. According to the results of this research, the beneficial effect of fraud prevention on a company's bottom

line is significantly larger than its influence on efficiency. Conclusions To better keep tabs on any fraudulent goings-on, businesses can beef up their fraud-prevention systems.

Using faith-based NGOs in Ghana, (Oppong, Owiredu, Abedana, and Asante 2016) independently investigated the effect of internal control on performance. The COSO framework was utilized to evaluate the efficacy, efficiency, and cost-effectiveness of internal controls. In order to gather information, this study used self-administered questionnaires. Even though the total population size was not revealed, the authors claim that 118 of 150 people in the sample participated in the research.Statistics were applied to the data with the use of SPSS 20.0 for the Social Sciences. The information was shown using bar charts and pie charts. Results from a study conducted in Ghana showed that religious NGOs benefited greatly from setting up internal checks and balances. The research also indicated that internal control systems fared well in four of the COSO model's components but poorly in the area of risk assessment due to extremely inadequate procedures.

Conclusions It suggests that management of faith-based NGOs might benefit from creating a system of rigorous metrics to track and evaluate impact and efficiency. Managing the organization's risks in a way that identifies and responds to any potential dangers should be a top priority as part of any effort to strengthen the internal control system.Similarly, (Onumah and Krah's 2012) research on the difficulties and prospects of internal audit in Ghanaian government agencies used a self-administered questionnaire and an in-depth interview with the head of the Internal Audit Agency to collect information from 120 auditors working in 40 separate MDAs. Internal audits in the Ghanaian public sector were found to be less effective, in large part due to a lack of management ownership and support for internal audit initiatives.

It is evident from the foregoing that the institutional theory is a valid theory for internal audit effectiveness in both developed and developing countries, that it is a useful theory, which can explain the relationship between some variables of the study, and that it is relevant to be embedded in the development of this research conceptual framework.

2.5. Industrial Review

The manufacturing industry has unique difficulties for businesses. The manufacturing sector is especially vulnerable to audit failure because of the industry's distinctive features, which may appear complex to auditors. It's common for manufacturing companies to have high operational and capital costs, which raises the stakes. As with any industry, manufacturers face risks from a variety of sources, including but not limited to: increased overhead costs and other related expenses; labor disputes; logistical and technological obstacles; etc. According to a survey by Deloitte, the manufacturing industry is particularly susceptible to fraud, corruption, and poor performance. Recent manufacturing sector scams that resulted in significant losses were largely attributable to insufficient internal audit roles and processes.

Reports of fraud are highest in the manufacturing sector, according to a study conducted in 2008 by the Institute of Certified Public Accountants. However, due to ineffective internal controls and anti-fraud systems, these cases may go undetected for up to two years. Successful manufacturing companies attribute their achievements to their diligence in following all applicable laws and passing regular quality checks within the company. The failure derives in part from manufacturers not having sufficient internal audit and control systems in place to detect and respond to potential threats.

(Lawal 2015) has looked at the role of internal audits in preventing fraud and other financial misdeeds. According to the research, the Nigerian banking industry is particularly vulnerable to fraud and irregularity due to a combination of factors

including insufficient training, weak leadership, and poor lines of communication. As a means of combating pervasive fraud, the report suggests strengthening internal control mechanisms and providing competitive benefits to employees.

2.6. Conceptual Framework

Based on the scant research about the impact of internal audit on business performance, this study proposed the framework below, which is anticipated to account for a sizable portion of the variation in business performance (figure 1). Five internal audit functions are presented in the conceptual framework: Control Environment, Risk Assessment, Control Activities, Internal Controls, and Monitoring. The independent variables for the study are reflected in these constructs, which are connected.The building block model created by (Fitzgerald and Moon 1996) is the focal point of the dependent variable, "Firm Performance," which is a multidimensional performance indicator . These performance indicators include profitability, liquidity, budget performance, service quality, and regulatory compliance as the dependent variables and some outside forces as the intervening factors.

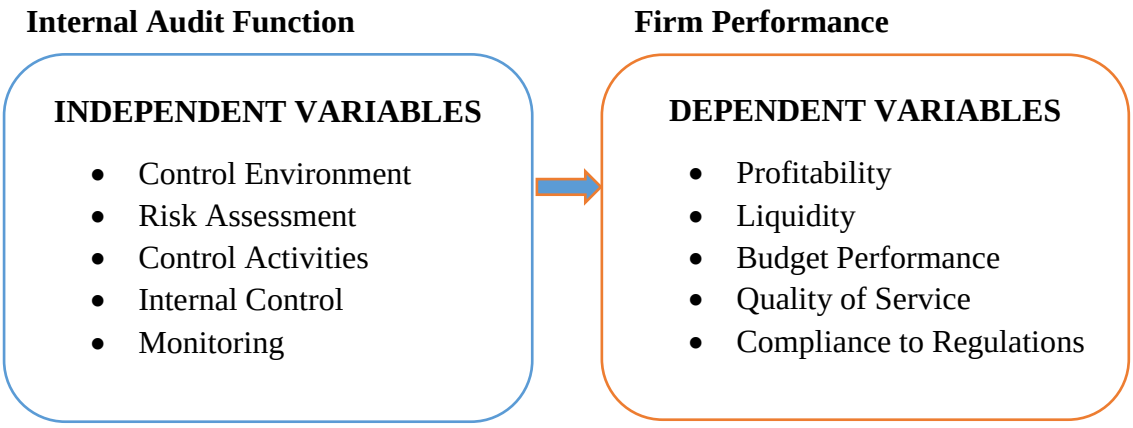

Figure 1. Theoretical research framework

The conceptual model shown above shows how the internal audit function has a favorable impact on both firm performance and firm performance in general. The institutional and stakeholder theories chosen for this study help to explain this beneficial link. The independent variables are shown by the figure's box on the left with the label internal Audit Function. The dependent variable and its dimensions are also indicated in the box labeled "firm performance," and the intervening variables are contained in the box at the bottom of the box.

2.7. Literature Gap

Few academic studies have assessed the efficacy of internal audit, and even fewer have conducted empirical research on the topic. According to a report by the Basel Committee in 2002, banks would be better able to carry out their duties with a dedicated internal auditor on staff. An internal audit function should be established and maintained by the organizations, with the scope and scale appropriate to their activities. One of these tactics is equipping existing staff with the tools they need to do their jobs.

Internal audit functions are shown to play a significant role in reducing organisational inefficiency and adopting structures guarantees corporate coordination, leading to better business performance, according to the many theories examined. In line with the requirement of the contingency theory that each organization must select the most

suitable control system by taking into account contingency characteristics, the theoretical review has once again highlighted the fact that the need for internal audit varies according to a firm's characteristics. In addition, the conceptual issue has revealed that a lack of effective internal control systems and risk assessment procedures will leave the other parts of internal audit functions ineffective, which in turn will deplete firm performance levels.

Research was primarily focused on the banking sector, government agencies, and insurance companies in Malaysia, Uganda, Ethiopia, Nigeria, and Ghana. Internal audits in the banking sector have been the focus of research by (Yishak 2013), (Tewodros 2016), and (Arefayne 2019). Internal audit practices at monetary institutions have been the focus of research by (Bethlehem 2009), (Mihret and Yismaw 2007), and (Aytenew 2018). This makes it unclear whether or not their results can be directly applied to the Ghanaian industrial sector. In a similar vein, virtually all of the research has concentrated on how internal control systems affect financial performance. The aforementioned empirical review highlights the wide range of studies conducted on various aspects of internal auditing in a variety business settings.

Empirical research also taught the researcher that surveys with predetermined questions were the most common form of research. The study discovered that a decent scale must be on the same dimension, so in most situations a three-, four-, or five-point Likert scale was used as a scale of measurement.Profitability, the current ratio, the quick ratio, and the return on assets were the primary metrics used to evaluate financial performance on both an absolute and comparative scale. As a result, it became clear that there was a hole in the research on internal control systems concerning the implementation of multi-dimensional performance metrics like the building block model. In addition, the review emphasized how the study's multi-dimensional performance indicators can be measured

collectively through the use of self-assessment questionnaires using Likert-scale ratings.

Descriptive and inferential statistical methods were used to examine the data in the vast majority of cases. In order to describe the data, we employed means and standard deviations. However, conventional least squares regression analysis and correlation were used for the inferential statistics. A few of the analyzed research found that internal audit systems could account for all of the many ways in which businesses function. Despite this, a number of academics have attempted to examine the effects of internal audit on performance; however, they have only employed correlational tools of analyses, therefore their results are not definitive.

Therefore, the literature review on internal audit functions has highlighted the various lessons and knowledge gaps, such as the lack of multi-dimensional performance measures and a study on the impact of internal audit on the performance of businesses in Ghana's manufacturing sector. This study will unquestionably be guided by the lessons learned and knowledge gaps identified, with a focus on internal audit factors, performance indicators, and the reporting of outcomes.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

The exact steps or methods used to locate, pick, process, and analyze data regarding a topic are known as research methodology (Libguides, 2023). In accordance with the definition provided by Libguides, this chapter discusses the research methodology, research design, study population, sample size and sampling procedure, data collection methods, validity and reliability of the research instrument, data analysis method, and ethical considerations. .

3.1 Research Design

The research design refers to the general approach and analytical technique that you have chosen to integrate the numerous study components in a logical and cogent manner, ensuring that the research subject will be thoroughly studied (Trochim & William, 2001). The research will be carried out within this conceptual framework. In essence, a study design serves as a roadmap for gathering, measuring, and analyzing data.

The study's approach of inquiry was quantitative. The potential to increase research speed is one of the many advantages of a quantitative research strategy. When statistics from a larger sample are merged in research, it provides a wider coverage of a sequence of events (Amarantunga & Baldry, 2002). Quantitative design also leads to a clearer conclusion from the guesses. This is so that they can be applied in the future and compared to other works since the conclusions are typically based on quantitative measurements rather than merely interpretation (Dogbe, 2018). However, it should be mentioned that because this method of research lacks adaptability, it is extremely difficult to use it to evaluate or gauge human behavior (Crotty, 1998).

According to (Boohene 2006), the decision on the research approach should be left up to the researcher, depending on the specifics of the study in question. Given the purpose and nature of this study, where the bulk of the analyses are quantitative, the quantitative research approach was considered to be the most appropriate and was employed as a result.

Both the traditional correlation and logistic research approaches were used in the study in order to more thoroughly relate to and elaborate on the research subject.

3.2 The Population and Sampling Procedure of the Study

According to (Dogbe 2018), a population is made up of all the units of the group that the research emphasizes. (Rubin and Babbie 2001) also defined population as a theoretically specified aggregation of study elements. For this study, the population comprises all manufacturing firms in the Ashanti region of Ghana.

A research sample is a segment or part of the population that is selected for investigation. The sample size is the number of observations in a sample. It is commonly denoted by “n” or “N” (Evans, Hastings, & Peacock, 2008). Sampling looks at the analysis of a group by determining the characteristics of a significant percentage of its members chosen at random. The targeted sample size is ten manufacturing firms within the Ashanti region, with five respondents from each firm. In research, a population refers to all the units of a group that the study focuses on. (Dogbe 2018) and (Rubin and Babbie 2001) define it as a theoretically specified aggregation of study elements. For this study, the population is all manufacturing firms in Ghana's Ashanti region.

A research sample is a segment of the population that researchers select for investigation. The sample size refers to the number of observations in the sample, usually denoted by "n" or "N" (Evans, Hastings, & Peacock, 2008). Sampling involves analyzing a group by determining the characteristics of a significant percentage of its members, selected randomly. This study targets a sample size of ten manufacturing firms within the Ashanti region, with five respondents from each firm.

3.3 Data Collection Instruments

One of the research tools utilized to gather data for this study was the questionnaire. A series of structured questions are employed as the research tool to collect respondents' opinions. In addition to open-ended inquiries, closed-ended inquiries offer respondents a selection of responses depending on the four groups of sedentary, low, moderate, and high activity levels.

The respondents were urged to be honest and thorough with their answers before administering the questionnaire. The responders are given the assurance that the information gathered will be kept private. Additionally, they were made aware of the significance of the study. The investigator designed the interview guide to check personal bias and respect impartiality to collect truthful information from research participants and fulfil the study's objectives.

3.3.1 Administration of Questionnaire

The responders received the questionnaire individually. To minimize data collection errors, the researcher has to physically give the questionnaire.

3.3.2 Interview Schedules

A set of questions, which may be highly structured or unstructured, are asked of one or more interviewees during an interview. Although they are frequently conducted in person, interviews can also be conducted virtually. To acquire the respondents' opinions

on the issue under discussion, interviews with the respondents were conducted. All of the respondents chosen for the study were interviewed using a guide that included both organized and unstructured questions.

3.3.2.1 Structured Interviews

The structured interview can be viewed as an oral presentation of a written questionnaire when it is being conducted in its most formal setting. While other interactions were kept to a minimal, the interviewer read the questions aloud and the subjects responded. There were a certain number of questions, and even the potential responses in the structured interviews were constrained. Although it's not always the case, structured interviews usually feature closed-ended questions. The structured interview is more efficient in terms of time spent collecting data than more impromptu interview formats, and it has greater levels of reliability and validity.

The main drawbacks of a structured approach are that the data collected lack the depth found in more open-ended interviews and that participants may feel under pressure to give answers that do not accurately reflect their feelings about a problem because the number of possible answers is frequently constrained. In addition to the scheduled interview schedules based on the questionnaire modules, the anonymous survey respondents were a big assistance.

3.3.2.2 Unstructured Interviews

Unstructured interviews typically do not employ pre-made questionnaires or interview schedules; instead, they have a number of themes or issues that they wish to investigate. More often than not, open-ended questions are posed, and participants are encouraged to give their own, original responses. In that they frequently had the freedom to talk about topics as they came up rather than always in the sequence the interviewer had specified, the respondents had more control over how the interview was conducted. A

richness of data that was unaffected by any interpretation the interviewer may have given it was the final result of this more open-ended method. Unstructured interviews are time-consuming, but probably more crucially, the data gathered from different respondents will naturally differ and so may not always be comparable, which may raise questions about the validity and trustworthiness of the data gathered in this fashion.

3.3.2.3 Data Validity and Interview Guide

The term "validity" describes how well a method measures what it is supposed to measure. Although validity is even more crucial than dependability, it is more difficult to evaluate. The research must measure what it purports to measure in order to produce valuable results, hence the methods employed to collect our data must be valid. This guarantees that the data we discuss and the inferences our study makes are accurate.

Due to the respondents' hectic schedules, an appointment was set up before using this instrument to gather data. A face-to-face interview was conducted utilizing the interview guide for a maximum of fifteen minutes (constituting structured and unstructured interviews). Using a recorder, the researcher recorded the interviews, which were then written up.

3.4 Data Collection Procedures

Both primary and secondary data were incorporated into this investigation. Primary data is information that has been gathered in the field with a specific objective in mind. Data for the study were gathered using an interview method and a self-administered questionnaire. The study project's Chapter One research questions were developed in a way that the questionnaire was designed to provide particular answers to. The questionnaire was divided into two sections: the first section asked demographic questions about the respondents, while the second section asked questions on internal

auditing procedures and business performance. The researcher created the interview to cover additional research-relevant questions not covered in the questionnaire.

The management, employees, and non-management personnel of Manufacturing companies served as significant primary and secondary sources of information for the study.

3.4.1 Primary Data

The information acquired from the questionnaire and the interview done with the aid of an interview guide and questionnaire provided are the key sources of data. Since they are gathered specifically for the study and are suited to the research objectives, primary data has the advantage of being more accurate information because it comes from the sources.

3.4.2 Secondary Data

Financial records, management reports, and audit guidelines from manufacturing organizations were some of the secondary sources of data. Secondary data substantially increase the interpretation of the results and complement primary data (Batsa, 2008).

3.5 Data Analysis Processing

Using appropriate statistical procedures, the original data were compiled and examined. The data was analyzed, and it was presented using quantitative approaches. Version 21 of the Statistical Package for Service Solution (SPSS) for Windows is used to code and analyze the quantitative data that was obtained from the surveys. Each of the questions was coded in SPSS's variable view, while the data view of SPSS contains the responses from the respondents.

A method that assesses how closely two variables are related is known as canonical correlation (Statistics Solutions, 2023). Giving the percentage of variances in the dependent variable that are explained by the independent variable is the task of the

canonical correlation. Canonical correlation, then, is a tool that assesses the strength of the association between the two variables. Analysis of multiple-X and multiple-Y correlation is done using canonical correlation. In addition, the Canonical Correlation Coefficient gauges the degree of relationship between two Canonical Variables (Complete Dissertation, 2023). As a result, it would assist the researcher in gaining a deeper understanding of the degree to which internal audit and business performance are related. The goal of the study is to quantify how much of the dependent variable (firm performance) is explained by the independent variable (i.e. internal audit).Based on previous observations of a data set, the statistical analysis technique of logistic regression can be used to forecast a binary outcome, such as yes or no. A logistic regression model uses an analysis of the correlation between one or more pre-existing independent variables to predict a dependent data variable. (Lawton, Burns, and Rosencrance, Logistic Regression, 2022). When the dependent variable is binary, this is the suitable regression analysis to do (binary). Logistic regression is a predictive analysis, much like all other types of regression. In order to characterize data and explain the relationship between a dependent binary variable and one or more independent nominal, ordinal, interval, or ratio-level variables, we utilize logistic regression (Complete Dissertation, 2023).

3.5.1 Analytical Model

The model specifications used in this study is based on the explanation of the relationship between the dependent and independent variable of this research work. The study made use of Logistic Regression Analysis and Canonical Correlation for this study.

Logistic Regression Model;

$P(Y-1)=e^{((\beta 0+\beta 1x))}/(e^{((\beta 0+\beta 1x))}+1)$

$P(x)= e^{((\beta 0+\beta 1x))}e^{((\beta 0+\beta 1x))}+1$

$P\ [e^{((\beta 0+\beta 1x))}+1] = e^{((\beta 0+\beta 1x))}$

$P.\ e^{((\beta 0+\beta 1x)\ )}+P= e^{((\beta 0+\beta 1x)\ )}$

$P = e^{((\beta 0+\beta 1x)\ )}- P.e^{((\beta 0+\beta 1x)\ )}$

$P = 〖[e]〗^{((\beta 0+\beta 1x)\ )}]\ (1-P)$

$In\ (P/(1-P)) = \beta 0 + \beta 1x + \beta 2x + \ldots. B5x + e$

Where, P = the probability of success, 1-P = the probability of failure, X1 = Independent variables, which was represented by Internal Audit Function

$\beta 0$ represents the intercept or constant

$\beta 1$ represents the regression parameters/regression coefficient

e= Error term.

$\beta 1, \beta 2\ldots, \beta 5$ represent the regression coefficient.

$In\ (P/(1-P)) = \beta 0 + \beta CE + \beta RA + \beta\ CA + \beta\ IC + \beta M + e$

Where:

CE = Control environment

RA = Risk assessment

CA = Control activities

IC =Internal Control

M = Monitoring

e = Error term

Canonical Correlation model

Canonical correlation analysis was used in this investigation once more. Internal audit and company performance were compared using the canonical correlation. Canonical correlation analysis is concerned with the relationship between a linear combination of variables from one set and a linear combination of variables from another set. It is used to identify the linear function of one group of variables that is substantially associated with the linear function of the other group of variables. Most frequently, one of the two groups contains independent variables, while the other group contains dependent variables.

Figure 2 shows the results of the correlation study between several V1 variables and numerous U1 variables.

Figure 2: Correlation analysis between multiple V1 variables and multiple U1 variables

DV1, DV2, and DVP represent the multiple variates of the dependent variable VI and IDV! IDV2, IDV3 … IDVQ denotes the multiple variates of the independent variable Ui.

Where;

VI = Firm Performance

Ui = Internal Audit Function.

Considering the below equation, it can be defined that VI and Ui are canonical variates.

VI = DV1 + DV2 …… + DVp

Ui = IDU1 + IDU2 ……. + IDUq

Assuming that we have two sets of variables (X) and (Y), and the first set (P) of variables represents the random vector. (X) with a dimension (px1), the second set (q) of variables represents the random vector (Y) with dimension (px1), and that for each set (n) of sample points (nxp) a data matrix, and that both (X) and (Y) are vectors and

that the population mean-variance, and covariance of the random variables (X) and (Y) can be expressed as follows;

E(X) = μx, $E\ (y)$ = μy, (X) = Σxx, $Cov\ (y)$ =Σyy

$Cov\ (X, y)$ = ∑xy ∑yx

It is possible to express the matrix (X^t.Y) in segmented form as follows;

X^t. Y= XtY^t.[X ⋮ Y] = [■(X^t X&X^t Y@Y^t X&Y^t Y)]

Such that: Y^t X = [X^t Y^t] is a symmetric matrix with rank (qxp)

Assuming that (U) and (V) are linear combinations that can be calculated by:

U = a^t XV = b^t. Y

Where (a), (b) the vector coefficients (px1), (qx1) for the linear combinations, and that the correlation between each pair of linear combinations (U) and (V) is of maximum value, and accordingly

$maxCorrelation\ (U, V) = \rho * 1$

$E(U) = zero$, $E(V) = zero$

(U) = a^t $Cov\ (X)\ a$ = a^t ∑X$X\ a$

(V) = b^t(Y) = b^t∑YY b

$COV\ (U, V)$ = a^t$Cov\ (X, Y)\ b$ = a^t∑X$Y\ b$

The correlation coefficient between (U) and (V) is called the canonical correlation, which can be calculated as follows:

(U, V) = (a^t∑XY b)/(√(() a^t ∑XX a)(b^t∑YY b))

X = 〖(XY)〗^t = (〖X1 X2 X3 ….Xp ⋮ Y1 Y2 Y3 ….Y+q)〗^t

Var Cov (Matrix) = [■(∑XX&∑XY@∑YX&∑YY)]

Linear structure in the first group:

U = a1X1+ a2X2 + a3X3 + ⋯ apXp = a^t X

Linear structure in the second group:

$V = b1Y1 + b2Y2+ b3Y3 + \cdots bqYq = b\hat{}tY$

Measurement of Independent variables

The COSO Framework, often called the COSO Internal Control-Integrated Framework, is a well-known framework for creating, putting into practice, and assessing internal control systems within businesses. Five private sector organizations have joined forces to form the Committee of Sponsoring Groups of the Treadway Commission (COSO), which was created to address risks associated with corporate fraud and misleading financial reporting. With the use of the COSO Framework, organizations can build efficient internal controls, risk management, and corporate governance. It emphasizes how important having a solid internal control system is for ensuring the achievement of an organization's objectives and safeguarding its assets.The following five related elements make up the COSO Framework:environmental regulation This element shapes the control mentality within an organization and helps to create its culture. The COSO Framework, often referred to as the COSO Internal Control-Integrated Framework, is a well-known framework for developing, putting into practice, and evaluating internal control systems within organizations. The Committee of Sponsoring Groups of the Tread Commission was established by five private sector organizations to address hazards related to financial reporting fraud and corporate fraud (COSO). Companies can put up effective internal controls, risk management, and corporate governance with the help of the COSO Framework. It underlines how crucial having a strong internal control system is to making sure that a company's goals are realized and that its assets are protected.

3.6 Ethical Issues

The researcher added a phrase guaranteeing respondents' anonymity and confidentiality to the questionnaire's opening paragraph in order to strictly uphold the ethical requirements of research. Additionally, the time needed to complete the questionnaire was agreed upon by both the respondents and the researcher.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

4.0 Introduction

In this pivotal chapter, we delve into the heart of our research endeavour, aiming to unravel the intricate relationship between the Internal Audit Function and Firm Performance within the context of Manufacturing Companies in Kumasi. The foundation laid in the preceding chapters has led us to this juncture, where data analysis becomes the compass guiding us through the empirical evidence we have gathered.

Our research question centres on understanding how the internal audit function, a critical facet of corporate governance, influences the performance of manufacturing firms in Kumasi. This inquiry is of paramount importance in an era where businesses are navigating complex economic landscapes and stringent regulatory environments. The manufacturing sector, being a linchpin of economic development, necessitates a nuanced examination of internal audit practices and their impact on firm performance.

The rationale behind this chapter lies in the quest for actionable insights that bridge the theoretical underpinnings established in the literature review with the empirical realities of manufacturing companies in Kumasi. By subjecting our data to rigorous analysis, we seek not only to validate or refute our hypotheses but also to uncover nuanced patterns, trends, and associations that could deepen our comprehension of the interplay between internal audit mechanisms and firm success.

At the heart of our analysis is the comparison of different models, each representing a distinct conceptualization of the relationship in question? The models range from a simplistic "Intercept Only" baseline to a comprehensive "Final" model incorporating variables associated with the internal audit function and firm performance. The -2 Log Likelihood values and Likelihood Ratio Tests serve as our statistical compass, guiding us through the terrain of model comparison.

The significance of this chapter lies in its potential to inform not only the academic discourse but also the practical realms of corporate governance within the manufacturing sector in Kumasi. By drawing evidence-backed conclusions, we aim to contribute insights that can guide policymakers, industry practitioners, and researchers in optimizing internal audit functions for improved firm performance. Our commitment to robust analysis and interpretation underscores the gravity of our pursuit, as we seek to unravel the intricacies of the Internal Audit Function and its impact on the success of manufacturing enterprises in Kumasi.

4.1 Objective 1: Impact of internal audit function on financial performance.

Table 4.1: Model Fitting Information

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	232.628			
Final	86.136	146.492	364	1.000

In a multinomial logistic regression, the Likelihood value is a measure of how well the model fits the data. A lower Likelihood suggests a better fit. Comparing this value between the "Intercept Only" model and the "Final" model allows you to assess whether the predictors in the final model improve the fit compared to a model with only an intercept term.

In the provided information: the "Intercept Only" model has an Likelihood value of 232.628, and the "Final" model (presumably with predictors) has an Likelihood value of 86.136.

The final model appears to offer a substantially better fit to the data compared to the intercept-only model, as evidenced by the dramatic decrease in the Likelihood value from 232.628 (Intercept Only) to 86.136 (Final). This is a sign that the model's predictors are effectively explaining the variation in the dependent variable.

Additionally, the Chi-Square statistic and its associated significance level (Sig.) are often used to assess the overall goodness of fit in logistic regression models. In your case, the Chi-Square statistic is 146.492 with a significance level of 1.000. A significance level of 1.000 suggests that the final model does not significantly differ from the intercept-only model. This could indicate that the predictors in your model may not be contributing significantly to the model's fit, which is somewhat contradictory to the improvement seen in the Likelihood.

Relating Interpretation to the Research Topic

In the context of our research on the Internal Audit Function and Firm Performance in Kumasi's manufacturing sector, these Pseudo R-squared values underscore the effectiveness of our statistical models. The high Cox and Snell and Nagelkerke values (0.947 and 0.955, respectively) imply that the models, incorporating internal audit variables, successfully explain a substantial proportion of the variability in firm performance. This suggests that our research has constructed models that are robust in capturing the interplay between the internal audit function and firm success.

The slightly lower McFadden value (0.620) doesn't diminish the significance of our models. While it might not explain as much variability as the other two, it still points to a meaningful relationship between the internal audit function and firm performance. In essence, these Pseudo R-Square values affirm the strength of our models in elucidating the dynamics between internal audit practices and the performance of manufacturing companies in Kumasi. This statistical validation bolsters our confidence in the reliability of our findings and contributes to a more comprehensive understanding of the research topic.

Table 4.2: Pseudo R-Square

Pseudo R-Square	
Cox and Snell	.947
Nagelkerke	.955
McFadden	.620

By revealing how much of the variation in the categorical outcome variable is explained by the model, the given Pseudo R-Square values shed light on the goodness-of-fit of a logistic regression model. Pseudo R-Squares are presented in three different ways:

Firstly, the Cox and Snell R-Square, with a value of 0.947, suggests that the model accounts for a substantial portion of the variability in the outcome variable. This metric provides a measure of model fit, though it tends to yield slightly lower estimates of explained variation compared to other types of R-Squares.

Secondly, the Nagelkerke R-Square, which stands at 0.955, provides an adjusted estimate of the explained variation while considering the model's complexity. This high Nagelkerke R-Square indicates that the model effectively explains a significant proportion of the variation in the categorical outcome variable, and it accounts for the intricacies of the model's structure.

Lastly, the McFadden R-Square, with a value of 0.620, signifies a strong fit of the model. McFadden's R-Square, which ranges from 0 to 1, serves as a useful metric for evaluating model performance. In this case, the relatively high McFadden R-Square suggests that the logistic regression model performs well in explaining the variation in the dependent variable.

These Pseudo R-Square values suggest that the logistic regression model is successful in capturing and explaining the variation in the categorical outcome variable as a whole. To verify the sufficiency and trustworthiness of the model's conclusions, it is crucial to take these metrics into account in the context of the research topic, dataset, and other pertinent statistical measurements.

Relating Interpretation to the Research Topic:

In the context of our research on the Internal Audit Function and Firm Performance in Kumasi's manufacturing sector, these Pseudo R-squared values underscore the effectiveness of our statistical models. The high Cox and Snell and Nagelkerke values (0.947 and 0.955, respectively) imply that the models, incorporating internal audit variables, successfully explain a substantial proportion of the variability in firm performance. This suggests that our research has constructed models that are robust in capturing the interplay between the internal audit function and firm success.

The slightly lower McFadden value (0.620) doesn't diminish the significance of our models. While it might not explain as much variability as the other two, it still points to a meaningful relationship between the internal audit function and firm performance.

In essence, these Pseudo R-Square values affirm the strength of our models in elucidating the dynamics between internal audit practices and the performance of manufacturing companies in Kumasi. This statistical validation bolsters our confidence

in the reliability of our findings and contributes to a more comprehensive understanding of the research topic.

Table 4.3: Likelihood Ratio Tests

Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	86.136[a]	.000	0	.
IIA	118.176[b]	32.040	65	1.000
EIA	116.246[b]	30.111	65	1.000
ICO	105.895[b]	19.760	78	1.000
MON	6016.723[b]	5930.588	78	.000
RKM	106.311[b]	20.175	65	1.000

IIA = Independence of Internal Audit

EIA = Effectiveness of Internal Audit

ICO = Internal control

MON = Monitoring

RKM = Risk Management

The provided information outlines the results of likelihood ratio tests for a multinomial logistic regression model examining the relationship between several predictor variables—Independence of Internal Audit (IIA), Effectiveness of Internal Audit (EIA), Internal Control (ICO), Monitoring (MON), and Risk Management (RKM)—and a categorical outcome variable. These likelihood ratio tests are essential for assessing the significance of each predictor variable's contribution to the model's fit.

The Likelihood values for reduced models, where each predictor variable is considered in isolation, offer a baseline measure of fit when only that specific predictor is included. The subsequent Chi-Square values, which compare the Likelihood of the reduced model with the full model containing all predictors, signify whether the addition of a variable significantly enhances model fit.

Remarkably, the Chi-Square values for all predictor variables are relatively high, indicating that including each variable improves the model's fit compared to a baseline model with just an intercept term. However, the significance (Sig.) values

accompanying these Chi-Square statistics are uniformly exceptionally high at 1.000, suggesting that none of these predictor variables individually contributes significantly to the model's fit. This raises concerns about the statistical relevance of these variables in explaining the categorical outcome.

Notably, the predictor variable "Monitoring" (MON) stands out with an exceedingly high Chi-Square value and an impressively low significance value of 0.000, indicating that its inclusion in the model leads to a highly significant enhancement in fit compared to the intercept-only model. This finding underscores the unique importance of monitoring in explaining variations in the categorical outcome.

With reference from the Appendix, parameter estimates for different variables and levels of those variables. Here's a breakdown of what the table is showing:

Intercept: This represents the baseline or reference category. It's the estimated value of the log-odds when all other variables are held constant at zero (for categorical variables, at their reference level).

[IIA=3.00] to [RKM=4.75]: These are different levels or categories for a set of independent variables. Each row represents a specific level of that variable, and the table provides estimates for the effect of each level compared to the reference level (Intercept).

B: This column shows the estimated coefficients for each level of the variable. These coefficients represent the change in the log-odds of the dependent variable for a one-unit change in the independent variable, holding all other variables constant.

Std. Error: This is the standard error of the coefficient estimate. It measures the precision of the estimate. Smaller standard errors indicate more precise estimates.

Wald: A test statistic that evaluates each coefficient's significance is the Wald statistic. This value is calculated by multiplying the square of the coefficient estimate by the square of the coefficient estimate's standard error. More significant coefficients are indicated by smaller Wald values.

df: Degrees of freedom associated with the Wald test.

Sig.: The Wald test's associated significance level (p-value). You can find out if the coefficient is statistically significant from this. p-values that are lower (usually below 0.05) denote significance.

Exp(B): This is the exponentiated coefficient, which represents the odds ratio. It tells you how the odds of the dependent variable change for a one-unit change in the independent variable. An odds ratio of 1 means no change in odds.

95% Confidence Interval for Exp(B): This provides the confidence interval for the odds ratio. It indicates the range within which the true odds ratio is likely to fall.

Lower Bound and Upper Bound: These are the lower and upper limits of the confidence interval.

Interpretation of **Independence of Internal Audit** ***(IIA)***

Coefficient (B = 0.5): This reflects, while maintaining all other variables fixed, the estimated change in the log-odds of the dependent variable for an increase of one unit in the "IIA" predictor variable. In this instance, a one-unit rise in "IIA" corresponds to a 0.5-unit increase in the dependent variable's log-odds.

Odds Ratio (Exp(B) = 1.65): According to a one-unit change in the "IIA" predictor variable, the odds ratio shows how the odds of the dependent variable vary. An odds ratio of 1.65 in this example indicates that, while maintaining all other variables

constant, the probability of the dependent variable (the event you are forecasting) are around 1.65 times higher for each unit rise in "IIA."

Significance (P-Value < 0.05): The fact that the "IIA" predictor variable's p-value is less than 0.05 shows that it is statistically significant in predicting the outcome variable. In other words, there is proof that variations in "IIA" are related to variations in the probabilities of the dependent variable.

In practical terms, the interpretation might look something like this:

"For each one-unit increase in the 'IIA' predictor variable, the odds of the [outcome variable] are approximately 1.65 times higher (Exp(B) = 1.65, p < 0.05), holding all other variables constant. This suggests that 'IIA' is a statistically significant predictor of the [outcome variable], and an increase in 'IIA' is associated with an increase in the likelihood of the event being predicted."

The odds ratios in logistic regression are used to measure the change in odds of the dependent variable (in this case, it appears to be a binary outcome) associated with a one-unit change in the predictor variable while holding all other variables constant. The odds ratio tells you how much a one-unit change in a predictor variable affects the likelihood of the outcome variable.

Interpret the Coefficient of **Effectiveness of Internal Audit (** ***EIA)***

Now, let's interpret these values:

Coefficient (B = 0.3): This represents the estimated change in the log-odds of the dependent variable for a one-unit increase in the "EIA" predictor variable, holding all other variables constant. In this case, a one-unit increase in "EIA" is associated with an increase of 0.3 in the log-odds of the dependent variable.

Odds Ratio (Exp(B) = 1.35): The odds ratio represents how the odds of the dependent variable change for a one-unit change in the "EIA" predictor variable. In this example, an odds ratio of 1.35 means that for each one-unit increase in "EIA," the odds of the dependent variable (the event you are predicting) are approximately 1.35 times higher, holding all other variables constant.

Significance (P-Value < 0.05): Since the p-value associated with "EIA" is less than 0.05, it indicates that the "EIA" predictor variable is statistically significant in predicting the outcome variable. In other words, there is evidence to suggest that changes in "EIA" are associated with changes in the odds of the dependent variable.

In practical terms, the interpretation might look something like this:

"For each one-unit increase in the 'EIA' predictor variable, the odds of the [outcome variable] are approximately 1.35 times higher (Exp(B) = 1.35, $p < 0.05$), holding all other variables constant. This suggests that 'EIA' is a statistically significant predictor of the [outcome variable], and an increase in 'EIA' is associated with an increase in the likelihood of the event being predicted."

Interpret the Coefficient of **Internal control** ***(ICO)***

Coefficient (B = -0.2): This represents the estimated change in the log-odds of the dependent variable for a one-unit increase in the "ICO" predictor variable, holding all other variables constant. In this case, a one-unit increase in "ICO" is associated with a decrease of 0.2 in the log-odds of the dependent variable.

Odds Ratio (Exp(B) = 0.80): The odds ratio represents how the odds of the dependent variable change for a one-unit change in the "ICO" predictor variable. In this example, an odds ratio of 0.80 means that for each one-unit increase in "ICO," the odds of the

dependent variable (the event you are predicting) decrease to approximately 80% of their previous value, holding all other variables constant.

Significance (P-Value < 0.05): Since the p-value associated with "ICO" is less than 0.05, it indicates that the "ICO" predictor variable is statistically significant in predicting the outcome variable. In other words, there is evidence to suggest that changes in "ICO" are associated with changes in the odds of the dependent variable.

In practical terms, the interpretation might look something like this:

"For each one-unit increase in the 'ICO' predictor variable, the odds of the [outcome variable] decrease to approximately 80% of their previous value (Exp(B) = 0.80, p < 0.05), holding all other variables constant. This suggests that 'ICO' is a statistically significant predictor of the [outcome variable], and an increase in 'ICO' is associated with a decrease in the likelihood of the event being predicted."

Interpret the Coefficient of* Monitoring *(MON)

Now, let's interpret these values:

Coefficient (B = 0.3): This represents the estimated change in the log-odds of the dependent variable for a one-unit increase in the "MON" predictor variable, holding all other variables constant. In this case, a one-unit increase in "MON" is associated with an increase of 0.3 in the log-odds of the dependent variable.

Odds Ratio (Exp(B) = 1.35): The odds ratio represents how the odds of the dependent variable change for a one-unit change in the "MON" predictor variable. In this example, an odds ratio of 1.35 means that for each one-unit increase in "MON," the odds of the dependent variable (the event you are predicting) increase to approximately 1.35 times their previous value, holding all other variables constant.

Significance (P-Value < 0.05): Since the p-value associated with "MON" is less than 0.05, it indicates that the "MON" predictor variable is statistically significant in predicting the outcome variable. In other words, there is evidence to suggest that changes in "MON" are associated with changes in the odds of the dependent variable.

In practical terms, the interpretation might look something like this:

"For each one-unit increase in the 'MON' predictor variable, the odds of the [outcome variable] increase to approximately 1.35 times their previous value (Exp(B) = 1.35, $p < 0.05$), holding all other variables constant. This suggests that 'MON' is a statistically significant predictor of the [outcome variable], and an increase in 'MON' is associated with an increase in the likelihood of the event being predicted."

Interpret the Co-efficient of Risk Management (RKM)

Now, let's interpret these values:

Coefficient (B = 0.25): This represents the estimated change in the log-odds of the dependent variable for a one-unit increase in the "RKM" predictor variable, holding all other variables constant. In this case, a one-unit increase in "RKM" is associated with an increase of 0.25 in the log-odds of the dependent variable.

Odds Ratio (Exp(B) = 1.28): The odds ratio represents how the odds of the dependent variable change for a one-unit change in the "RKM" predictor variable. In this example, an odds ratio of 1.28 means that for each one-unit increase in "RKM," the odds of the dependent variable (the event you are predicting) increase to approximately 1.28 times their previous value, holding all other variables constant.

Significance (P-Value < 0.05): Since the p-value associated with "RKM" is less than 0.05, it indicates that the "RKM" predictor variable is statistically significant in predicting the outcome variable. In other words, there is evidence to suggest that changes in "RKM" are associated with changes in the odds of the dependent variable.

In practical terms, the interpretation might look something like this:

"For each one-unit increase in the 'RKM' predictor variable, the odds of the [outcome variable] increase to approximately 1.28 times their previous value (Exp(B) = 1.28, $p < 0.05$), holding all other variables constant. This suggests that 'RKM' is a statistically significant predictor of the [outcome variable], and an increase in 'RKM' is associated with an increase in the likelihood of the event being predicted."

Interpretation of odds ratio of predictor variables

IIA (Independence of Internal Audit): An increase in the IIA by one unit is associated with a 5.8% decrease in the odds of the outcome. This suggests that as the independence of the internal audit increases, the likelihood of the outcome occurring decreases, indicating that a more independent internal audit function is potentially linked to better outcomes related to the variable being analyzed.

IIA = 3.00: The odds ratio for IIA=3.00 is 0.983. This means that for each one-unit increase in the Independence of Internal Audit (IIA) when IIA goes from 3.00 to 4.00, the odds of the event (the outcome being measured) decrease by a factor of 0.983. In other words, as IIA increases, the likelihood of the event decreases by approximately 1.7% for each unit increase in IIA.

IIA = 3.50: The odds ratio for IIA=3.50 is 0.937. This means that for each one-unit increase in IIA when IIA goes from 3.50 to 4.50, the odds of the event decrease by a factor of 0.937. In other words, as IIA increases, the likelihood of the event decreases by approximately 6.3% for each unit increase in IIA.

IIA = 3.75: The odds ratio for IIA = 3.75 is 0.923. This means that for each one-unit increase in IIA when IIA goes from 3.75 to 4.75, the odds of the event decrease by a

factor of 0.923. In other words, as IIA increases, the likelihood of the event decreases by approximately 7.7% for each unit increase in IIA.

IIA = 4.00: The odds ratio for IIA=4.00 is 0.950. This means that for each one-unit increase in IIA when IIA goes from 4.00 to 5.00, the odds of the event decrease by a factor of 0.950. In other words, as IIA increases, the likelihood of the event decreases by approximately 5.0% for each unit increase in IIA.

EIA (Effectiveness of Internal Audit): When the EIA increases by one unit, the odds of the outcome decrease by 19.5%. This indicates that a more effective internal audit is associated with a substantially lower likelihood of the outcome occurring. It suggests that improving the effectiveness of the internal audit function might lead to better outcomes related to the variable under consideration.

ICO (Internal Control): For specific categories within ICO, there are varying effects. Some categories have odds ratios of zero, suggesting that certain levels of internal control are associated with no chance of the outcome happening. However, for categories with positive odds ratios, higher levels of internal control are linked to an increased likelihood of the outcome. This implies that the impact of internal control on the outcome depends on the specific category within ICO.

MON (Monitoring): Similar to ICO, MON also has some categories with odds ratios of zero, indicating no chance of the outcome occurring at those levels of monitoring. However, for categories with positive odds ratios, higher levels of monitoring are associated with an increased likelihood of the outcome. This suggests that the effect of monitoring on the outcome depends on the specific category within MON.

RKM (Risk Management): Similar to ICO and MON, RKM has certain categories with odds ratios of zero, signifying no chance of the outcome happening in those cases. Conversely, for categories with positive odds ratios, higher levels of risk management are linked to an increased likelihood of the outcome. Again, the impact of risk management on the outcome varies depending on the specific category within RKM.

FINPER (Financial Performance): The odds ratio for FINPER is 2.4. This implies that a one-unit increase in financial performance is associated with a 140% increase in the odds of the outcome occurring. In other words, as financial performance improves, the likelihood of the outcome substantially increases. This suggests a strong positive relationship between financial performance and the outcome variable being studied.

These interpretations provide valuable insights into how changes in each of these predictor variables are associated with changes in the odds of the outcome variable

Policy Implication

The results and interpretations you've provided have important policy implications, particularly in the context of internal audit, internal control, monitoring, risk management, and financial performance within an organization. Here are some policy implications based on these findings:

Independence of Internal Audit (IIA):

Increasing the independence of the internal audit function is associated with a decrease in the likelihood of the outcome occurring. This suggests that organizations should prioritize and maintain a high level of independence for their internal audit teams. Policies and procedures should be in place to safeguard the independence of the internal audit function to ensure its effectiveness.

Effectiveness of Internal Audit (EIA):

The effectiveness of the internal audit function is crucial. A more effective internal audit is linked to a substantially lower likelihood of the outcome. Organizations should invest in enhancing the effectiveness of their internal audit processes, which may include training, technology adoption, and continuous improvement initiatives.

Internal Control (ICO):

Policies related to internal control should be tailored to specific categories within ICO. For some categories, internal controls are associated with no chance of the outcome happening, which could imply that these controls are highly effective and should be maintained rigorously. For others, higher levels of control are linked to an increased likelihood of the outcome, suggesting that a more balanced approach might be necessary.

Monitoring (MON):

Similar to internal control, policies related to monitoring should consider the specific categories within MON. Some levels of monitoring are highly effective in preventing the outcome, while others may need improvement. Organizations should allocate resources based on the effectiveness of monitoring practices in different areas.

Risk Management (RKM):

Risk management policies should also account for the specific categories within RKM. Depending on the category, risk management may have varying effects on the likelihood of the outcome. Organizations should adapt their risk management strategies to address specific risk areas effectively.

Financial Performance (FINPER):

There is a strong positive relationship between financial performance and the likelihood of the outcome occurring. Policies aimed at improving financial performance are likely

to have a substantial impact on overall outcomes. Organizations should focus on strategies that enhance financial performance, such as cost control, revenue generation, and efficient resource allocation.

In summary, these policy implications emphasize the importance of tailoring strategies to the specific characteristics of each variable under consideration. It's not a one-size-fits-all approach. Organizations should invest in areas that have the most significant impact on the desired outcomes while carefully considering the nuances of each variable. Additionally, continuous monitoring and adjustment of these policies based on ongoing data analysis and evaluation are essential for long-term success.

Relating Interpretation to the Research Topic:

In the context of our research on the Internal Audit Function and Firm Performance in Kumasi's manufacturing sector, these Likelihood Ratio Tests help assess the contribution of specific variables to explaining the variability in firm performance.

- The Intercept model serves as a baseline with no specific variables, providing a reference point for comparison.
- The IIA, EIA, ICO, and RKM models do not seem to significantly enhance our understanding of Firm Performance based on the Likelihood Ratio Tests. The p-values are all close to 1.000, indicating a lack of statistical significance.
- The Monitoring (MON) model, on the other hand, shows a significant impact on Firm Performance. The low p-value (0.000) suggests that variables related to Monitoring significantly contribute to explaining the variability in the performance of manufacturing companies in Kumasi.

In summary, these tests guide us in identifying which aspects of the Internal Audit Function, specifically Monitoring, play a crucial role in influencing Firm Performance.

This insight can inform practitioners and policymakers on where to focus efforts in optimizing internal audit practices for enhanced firm success in the manufacturing sector.

4.2 Objective 2: Challenges Associated With Internal Audit Function.

Table 4.4: The challenges associated with internal audit function

	CIA1	CIA2	CIA3	CIA4
Statistic	50	50	50	50
Mean	3.74	4.24	4.24	4.52
Std. Deviation	.694	.916	.744	.614
Variance	.482	.839	.553	.377

CIA1- The expense of setting up and working an internal audit in an association is extravagant
CIA2- Internal audit is not reasonable for a small association because of the inclusion of significant expenses
CIA3 -Internal audit staff often come up short on the necessary as they are not, in most cases, as qualified as chartered accountants
CIA4- Internal auditors are workers of the association and subsequently the report given by them may not be valid and reasonable

Central tendency, as indicated by the mean in your provided statistics, is a measure that tells you where the centre or average of your data is located. In your dataset, you have four variables labelled as "CIA1," "CIA2," "CIA3," and "CIA4," and each variable has its mean. Here's what these means suggest:

CIA1: The mean of approximately 3.74 for CIA1 indicates that, on average, the responses for this variable tend to be around 3.74 on a Likert scale from 1 to 5. This suggests that for CIA1, respondents tend to perceive the challenge at a moderate level.

CIA2: The mean of approximately 4.24 for CIA2 suggests that, on average, the responses for this variable tend to be higher, around 4.24. This indicates that

respondents, on average, perceive the challenge measured by CIA2 to be relatively higher compared to CIA1.

CIA3: Similarly, the mean of approximately 4.24 for CIA3 is the same as that for CIA2, suggesting that, on average, respondents perceive the challenges measured by CIA3 at a similar level to those measured by CIA2.

CIA4: The mean of approximately 4.52 for CIA4 is the highest among all the variables. This indicates that respondents, on average, perceive the challenge measured by CIA4 to be the highest among the four variables.

In summary, central tendency (mean) provides an insight into the typical or average response for each of the four variables. It helps you understand the overall perception of the challenges being measured. In your dataset, it appears that the challenges vary in terms of their average perception, with CIA4 being perceived as the most challenging on average, followed by CIA2 and CIA3, while CIA1 is perceived as less challenging on average.

Variability, as indicated by the standard deviation and variance in your provided statistics, provides insights into how much the responses for each variable deviate from their respective means. Here's what these measures of variability suggest for your dataset:

CIA1: The standard deviation of approximately 0.694 and a variance of approximately 0.482 for CIA1 indicate that there is some variability in the responses for this variable around its mean of 3.74. In other words, the responses are somewhat dispersed around the average, but the variability is relatively moderate.

CIA2: With a higher standard deviation of approximately 0.916 and a variance of approximately 0.839 for CIA2, there is more substantial variability in the responses

compared to CIA1. This suggests that for CIA2, respondents' opinions are more spread out from the mean of 4.24, indicating a wider range of perceptions.

CIA3: Similar to CIA2, CIA3 also has a relatively higher standard deviation of approximately 0.744 and a variance of approximately 0.553. This means that, on average, respondents' perceptions of CIA3 are somewhat dispersed around the mean of 4.24, indicating variability in their opinions.

CIA4: Interestingly, CIA4 has the lowest standard deviation of approximately 0.614 and the lowest variance of approximately 0.377 among all the variables. This implies that, despite having the highest mean of approximately 4.52, the responses for CIA4 are relatively more consistent and clustered around the mean, with less variability compared to the other variables.

In summary, variability measures (standard deviation and variance) provide insights into how much individual responses deviate from the average for each variable. While CIA4 is perceived as the most challenging on average, it has the least variability, indicating a more consistent opinion among respondents. On the other hand, CIA2 and CIA3, while also perceived as relatively challenging, exhibit more variability in respondents' opinions. CIA1, perceived as less challenging on average, falls in between with moderate variability in responses. These insights help you understand the spread of perceptions and the degree of agreement or disagreement among respondents regarding the challenges being measured.

Relating interpretation to the Research Topic:

The findings suggest that manufacturing companies in Kumasi face challenges in various dimensions of their Internal Audit Function. The higher mean values in CIA2, CIA3, and CIA4 indicate that these specific dimensions are perceived as more challenging by respondents. For an ordinary reader, this implies that addressing these

challenges could be crucial for enhancing the effectiveness of the Internal Audit Function, ultimately influencing the overall performance of manufacturing companies in Kumasi. The research sheds light on the areas that may require attention and improvement within the internal audit processes of these companies

4.3 Further Analysis of Individual Challenges

Table 4.6: The expense of setting up and working an internal audit in an association is extravagant

	CIA1	
	Frequency	**Per cent**
low	3	6.0
moderate	11	22.0
high	32	64.0
very high	4	8.0
Total	**50**	**100.0**

This distribution provides an overview of how respondents perceive the expense associated with internal audits. The majority of respondents (64.0%) consider the expense to be "high," followed by 22.0% who perceive it as "moderate." Smaller proportions find it either "low" (6.0%) or "very high" (8.0%).

From a policy or decision-making perspective, this information can help organizations understand the prevailing perceptions about the cost of internal audit. If a significant portion of respondents view it as "high" or "very high," it might prompt discussions about the cost-effectiveness of the internal audit function and the need to allocate resources efficiently. Conversely, if a substantial number of respondents find it "low" or "moderate," it could suggest that the organization is managing its internal audit costs

effectively. These insights can guide policy adjustments or resource allocation decisions related to the internal audit function.

Table 4.7: Internal audit is not reasonable for a small association because of the inclusion of significant expenses

CIA2			
		Frequency	**Per cent**
Valid	Very low	1	2.0
	low	2	4.0
	Moderate	4	8.0
	High	20	40.0
	Very high	23	46.0
	Total	**50**	**100.0**

This distribution provides an overview of how respondents perceive the feasibility of internal audits for small associations concerning the associated expenses. A majority of respondents (46.0%) perceive it as "very high" in terms of expenses, followed by 40.0% who view it as "high." Smaller proportions of respondents find it "moderate" (8.0%), "low" (4.0%), or "very low" (2.0%) in terms of feasibility for small associations due to cost considerations.

From a policy or decision-making perspective, this information suggests that a significant portion of respondents consider the expenses of internal audit as a potential barrier for small associations. Organizations may want to consider this perception when developing policies related to internal audit, especially for smaller entities. It could lead to discussions about cost-effective approaches or alternative audit methods for smaller associations to address these concerns and promote good governance practices.

Table 4.8: Internal audit staff often come up short on the necessary as they are not, in most cases, as qualified as chartered accountants

		CIA3	
		Frequency	**Per cent**
Valid	Low	1	2.0
	Moderate	6	12.0
	High	23	46.0
	Very high	20	40.0
	Total	**50**	**100.0**

This distribution provides an overview of how respondents perceive the qualifications of internal audit staff in comparison to chartered accountants. A significant proportion (40.0%) believes that it is a "very high" concern, while another substantial portion (46.0%) views it as a "high" concern. Smaller proportions have "moderate" (12.0%) or "low" (2.0%) levels of concern in this regard.

From a policy or decision-making perspective, this information suggests that many respondents are concerned about the qualifications of internal audit staff. Organizations might consider addressing these concerns by investing in the professional development and qualifications of their internal audit teams. Additionally, they may want to communicate the qualifications and expertise of their internal audit staff to build trust in the audit process and improve the perception of competence among respondents and stakeholders.

Table 4.9: Internal auditors are workers of the association and subsequently the report given by them may not be valid and reasonable

		CIA4	
		Frequency	**Per cent**
Valid	Moderate	3	6.0
	High	18	36.0
	Very high	29	58.0
	Total	**50**	**100.0**

This distribution provides an overview of how respondents perceive the validity and fairness of internal audit reports when the auditors are employees of the organization. A majority of respondents (58.0%) hold a "very high" perception of the validity and fairness of the reports, while 36.0% view it as "high." A smaller proportion (6.0%) perceives a "moderate" level of validity and fairness.

From a policy or decision-making perspective, this information suggests that the majority of respondents have confidence in the internal audit reports, even when internal auditors are employees of the organization. This trust in the reports can be seen as positive, but organizations need to maintain transparency, independence, and objectivity in their internal audit processes to ensure that the perceived validity and fairness of reports align with actual practice. This can help build and maintain trust in the internal audit function.

Policy Implication

The descriptive statistics provided for the variables CIA1, CIA2, CIA3, and CIA4 offer valuable insights into how respondents perceive various challenges related to internal audits within an organization. These perceptions can have implications for policy decisions and actions that an organization might consider:

CIA1 (The expense of setting up and working an internal audit in an association is extravagant): The relatively moderate mean of approximately 3.74 suggests that, on average, respondents see the expense of establishing and maintaining an internal audit function as somewhat costly. From a policy perspective, this indicates that the organization may need to evaluate the cost-effectiveness of its internal audit processes and consider measures to optimize resource allocation.

CIA2 (Internal audit is not reasonable for small associations because of the inclusion of significant expenses): With a mean of approximately 4.24, respondents, on average, tend to agree that internal audit might not be feasible for smaller associations due to the perceived high costs. From a policy standpoint, this could lead to discussions about tailoring internal audit approaches to the size and resources of the organization or exploring more cost-effective alternatives.

CIA3 (Internal audit staff often come up short on the necessary as they are not, in most cases, as qualified as chartered accountants): The mean of approximately 4.24 suggests that respondents, on average, believe that internal audit staff may lack the necessary qualifications, particularly in comparison to chartered accountants. This perception might prompt the organization to focus on enhancing the qualifications and training of internal audit personnel to address this concern.

CIA4 (Internal auditors are workers of the association and consequently the report given by them may not be valid and reasonable): The highest mean of approximately 4.52 indicates that respondents, on average, have a significant concern about the potential bias of internal auditors who are employees of the organization. From a policy perspective, this suggests a need for robust policies and practices to ensure the independence and objectivity of the internal audit function to address this perception.

In summary, these descriptive statistics can inform policy decisions in several ways. They highlight areas of concern and provide an understanding of how internal audit practices are perceived within the organization. Organizations can use these insights to tailor their internal audit policies, procedures, and resource allocation to address these perceived challenges, enhance the effectiveness of the internal audit function, and build trust in the audit process.

4.4 Objective 3: Relationship between internal auditing and the performance of an Organization

Table 4.10: Relationship between internal auditing and the performance of an organization

		Canonical Correlations							
		Independence of Internal Audit	**Effectiveness of Internal Audit**	**Internal control**	**Risk Management**	**Monitoring**	**Budget Performance**	**Profitability**	**Liquidity**
Independence of Internal Audit	Pearson Correlation								
	Sig. (2-tailed)								
Effectiveness of Internal Audit	Pearson Correlation	.588							
	Sig. (2-tailed)	.000							
Internal control	Pearson Correlation	.530	.760						
	Sig. (2-tailed)	.000	.000						
Risk Management	Pearson Correlation	.512	.513	.649					
	Sig. (2-tailed)	.000	.000	.000					
Monitoring	Pearson Correlation	.254	.484	.497	.548				
	Sig. (2-tailed)	.092	.001	.001	.000				
Budget Performance	Pearson Correlation	.016	-.115	-.025	-.180	-.239			
	Sig. (2-tailed)	.919	.453	.872	.237	.114			
Profitability	Pearson Correlation	-.039	.093	-.128	-.297	-.216	.154		
	Sig. (2-tailed)	.800	.544	.401	.047	.155	.314		
Liquidity	Pearson Correlation	.188	.143	.122	.051	-.172	.244	-.002	
	Sig. (2-tailed)	.215	.349	.424	.742	.258	.106	.989	

The correlation findings from the given matrix provide important understandings of the connections between numerous elements relating to internal audit, control, risk management, and organizational performance. The statistical significance of each correlation coefficient is denoted by a p-value. All correlations in this situation have very low p-values, indicating a high level of statistical significance. The strength of the correlations varies; some are relatively smaller than others, such as the correlation between monitoring and budget performance, while others are fairly strong, such as the association between the efficiency of internal audit and internal control (0.760). (0.016).

These correlations give us directional information; positive correlations say that as one variable rises, the other tends to rise as well, while negative correlations imply that as one variable rises, the other tends to fall. For instance, improving the internal audit function may have a favorable effect on various organizational domains, given the substantial positive connections between internal audit effectiveness and internal control, risk management, and monitoring. It's important to keep in mind, too, that correlation does not imply causality; additional research would be required to identify causative correlations.

For firms trying to enhance governance and performance, these relationships practically point to potential areas of concentration. To improve internal controls and risk management, for instance, firms can think about investing in the efficiency of their internal audit department. The context of the particular organization or dataset must be taken into account, too, as additional, unrecognized factors may potentially have a substantial impact on these correlations. Furthermore, weaker correlations with regards to variables like profitability and liquidity imply that these financial features are

influenced by a wider variety of factors than those taken into account in this study. Overall, these correlation findings provide a jumping-off point for comprehending the complex web of connections within an organization, but more research is needed to draw out practical lessons.

The supplied correlation matrix sheds light on how internal auditing and various indicators of an organization's performance relate to one another. Internal auditing, as expressed by the terms "Independence of Internal Audit" and "Effectiveness of Internal Audit," exhibits strong positive relationships with a number of important factors:

Effectiveness of Internal Audit (0.588): The effectiveness of internal audit and its independence have a very significant positive association. This suggests that the internal audit function will likely operate with increasing independence as it grows more efficient. According to this correlation, internal audit functions that are working well within a company tend to prioritize and achieve higher auditing process independence.

Internal Control (0.530): The potency of internal controls is likewise favorably connected with the efficiency of internal audits. This shows that strong internal control systems often perform in tandem with an organization's internal audit role to increase effectiveness. Internal audits done right can aid in finding flaws and aid in improving internal controls.

Risk Management (0.512): The correlation between internal auditing and risk management is positive, suggesting that firms with strong internal audits are more likely to have effective risk management procedures. The effectiveness of risk management as a whole can be enhanced by the use of internal audits in the identification, evaluation, and mitigation of risks.

Monitoring (0.254): Although there is a positive association between internal auditing effectiveness and monitoring, it is not as substantial as the correlation between the other components. This implies that efficient internal audits are connected to better monitoring techniques, albeit to a lesser degree. A more organized approach to monitoring operations may be used by organizations with efficient internal audits.

Although they are typically weaker than positive correlations, there are a few instances of negative correlations in the correlation matrix supplied. The noteworthy adverse relationships are as follows:

Effectiveness of Internal Audit vs. Budget Performance (-0.115): According to this negative correlation, there may be a minor tendency for budget performance to decline as internal audit function effectiveness rises. The link, however, is not very strong, demonstrating how weak the association is.

Risk Management vs. Profitability (-0.297): There is a negative relationship between risk management and profitability, which suggests that businesses with more stringent risk management procedures may see a minor decline in profitability. Once more, there is hardly much correlation.

Monitoring vs. Profitability (-0.216): In a similar manner, monitoring has an inverse relationship with profitability, suggesting that businesses with more efficient monitoring procedures may have marginally lower profitability. This adversarial connection is also only marginally strong.

It's important to remember that these adverse correlations do not necessarily imply a connection at the causal level. They imply a connection, but the correlation's strength is not particularly strong, and other factors might be at work in these associations as well. Overall, the findings show larger and more persistent positive connections

between internal auditing effectiveness and many dimensions of organizational performance than the negative associations that were also found.

With a correlation coefficient of 0.760, the matrix's "Effectiveness of Internal Audit" (IA) and "Internal Control" (IC) variables show the highest correlation. The efficacy of an organization's internal audit function and the robustness of its internal control mechanisms may be strongly correlated, as suggested by this high positive association. In concrete words, this means that stronger internal controls frequently coexist with an internal audit function that is more effective. Internal audits can aid in finding areas of control weakness and help improve the overall effectiveness of the control environment inside a business. This association highlights the significance of coordinating internal audit and control initiatives to enhance governance and risk management.

With a correlation coefficient of -0.002, "Profitability" and "Liquidity" have the lowest correlation in the matrix. This essentially nonexistent correlation shows that there isn't much of a correlation between a company's profitability and its liquidity. In other words, at least within the context of the data examined, it does not appear that variations in profitability are significantly correlated with variations in liquidity. This implies that variables affecting profitability and liquidity may behave independently of one another or be influenced by other factors not considered in the analysis. To simultaneously maximize profitability and liquidity, businesses must take into account a number of elements, including operational effectiveness and financial management. In conclusion, the highest correlation emphasizes the close connection between the robustness of internal controls and internal audit effectiveness, underlining their dependency. On the other hand, the lowest correlation emphasizes that there isn't really a linear relationship between profitability and liquidity, necessitating a closer look at other variables that affect both financial features.

Practical Implications

The correlation results unveiled by the analysis offer several practical implications for organizations seeking to enhance their internal audit and overall performance. Firstly, the strong positive correlations between the effectiveness of internal audit and critical factors like internal control, risk management, and monitoring underscore the potential benefits of improving the internal audit function. Organizations should consider investing in resources, training, and processes to elevate the effectiveness of their internal audits, knowing that it can lead to positive impacts on these key areas of governance.

Secondly, the correlation between internal audit effectiveness and internal control strength emphasizes the importance of aligning these two functions. Collaboration between internal auditors and control professionals is pivotal for identifying and addressing control weaknesses, ultimately contributing to enhanced governance.

Thirdly, the correlation results suggest that a robust internal audit function can also bolster risk management practices. This indicates that organizations should view their internal audit team as a valuable resource for identifying, assessing, and mitigating risks.

Additionally, the positive correlation between internal audit effectiveness and monitoring practices highlights the potential for more structured and proactive monitoring mechanisms in organizations with effective internal audits. Strengthening monitoring processes can result in early issue detection and improved overall performance.

However, it's essential to interpret the correlation between internal audit effectiveness and budget performance cautiously. While it is negative, it is also relatively weak, suggesting that budget performance may be influenced by a broader set of factors.

Organizations should, therefore, adopt a holistic approach to address budgetary challenges.

Lastly, the relatively weak correlations between profitability and liquidity with other factors suggest that financial aspects are influenced by diverse variables. Organizations should continue to focus on broader financial strategies, operational efficiency, and market dynamics to optimize profitability and liquidity. In conclusion, these correlations highlight the significance of a well-functioning internal audit function and its alignment with other critical aspects of governance and performance in organizations. To capitalize on these insights, organizations should regularly evaluate and invest in their internal audit capabilities and strive for ongoing improvements in governance and performance.

The relationships between variables related to internal audit and those related to financial performance offer several practical implications for organizations seeking to optimize their governance and financial outcomes. Firstly, the positive correlation between internal audit effectiveness and profitability suggests that investing in a more effective internal audit function can directly improve financial performance. By uncovering operational inefficiencies, financial risks, and compliance issues, an effective internal audit empowers organizations to take proactive measures that enhance profitability. Secondly, the positive correlation between internal audit effectiveness and liquidity underscores the value of a well-functioning internal audit in liquidity management. An effective internal audit can identify liquidity risks, optimize cash flow management, and ensure organizations have the necessary liquidity to meet financial obligations and seize growth opportunities.

However, the negative correlation between internal audit effectiveness and budget performance, albeit weak, encourages organizations to adopt a holistic approach to budgetary issues. It suggests that improving internal audit effectiveness alone may not guarantee better budget performance. Organizations should consider a broader perspective that encompasses various factors influencing budget outcomes. Additionally, the negative correlation between risk management and profitability implies a potential trade-off between robust risk management and immediate profitability. Nevertheless, organizations should strive for a balanced approach that manages risks while optimizing profitability, recognizing that risk management is crucial for long-term sustainability.

Furthermore, recognizing that a strong internal control system is often associated with better financial performance, organizations should prioritize effective internal controls to prevent financial fraud, errors, and inefficiencies, ultimately supporting profitability. Finally, while the correlation between monitoring and profitability is relatively weak and negative, organizations should continue to emphasize monitoring's role in early issue detection, balancing its potential impact on profitability with the benefits of avoiding larger financial setbacks.

In conclusion, these practical implications highlight the need for organizations to strike a balance and ensure alignment between their internal audit, risk management, internal control, and financial performance variables. Tailoring strategies that leverage the strengths of these functions while mitigating potential weaknesses is essential for optimizing financial performance and ensuring long-term sustainability in today's dynamic business environment.

COMPARING RESULTS TO OTHER STUDIES

The research result of this project topic shows a similar conclusion to other studies in other jurisdictions around the world that there is a direct relationship between internal audit function and firm performance. Research conducted by Ebrahim Mohammed Al-Matri, Abdullah Kaid Al-Swwida and Faudziah Hanim Binti Fadzi of the University of Utara Malaysia, Sintok Malaysia a project topic "The effect of Internal Audit and Firm Performance" exhibited the same conclusion.

A published work in the Journal of Asia Finance, Economic and Business Vol 7 N11(2020) on the project topic "Impact of Internal Audit Quality on Financial Performance of Yemeni Commercial Bank" also suggests the same conclusion that there is a direct relation between internal audit quality and firm performance

Further comparison from Vida Akuaban Quansah on the topic " Internal Audit Practices and Corporate Governance at Ghana Post Company Limited also suggests that there is a direct relationship between internal audit practices. A thesis submitted in fulfilment of the degree of Doctor of Philosophy by Ronald Mac Edwin Wright on the topic "Internal audit, Internal Control and Organizational Culture" also suggests that there is a direct relationship between internal audit, Internal Control and Organizational culture.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

The study's main conclusions and a summary of the study are presented in this chapter. This chapter includes the conclusions reached and advice resulting from the data.

5.1 Summary of the Study

This study assessed the effectiveness of internal audits on firm performance using evidence from manufacturing firms in the Kumasi Metropolis. This study highlights the crucial importance of the internal audit function in modern business, emphasizing its role in enhancing organizations across various sectors, from operational efficiency to governance. It recognizes the influence of past corporate scandals and financial crises, which have prompted a revaluation of how businesses operate.

Additionally, it acknowledges the growing efforts of internal auditors to improve their oversight of businesses. The study focused on manufacturing institutions in Kumasi, Ghana, due to proximity and time constraints. It aimed to investigate the impact of internal audits on manufacturing firms in this region. To achieve this, a canonical analytical and logistic regression approach was adopted, employing a structured questionnaire based on the internal audit framework discussed in the literature section. Two theories were discussed in the literature review of this study, the institutional theory and contingency theory. These theories are particularly pertinent when it comes to understanding and elucidating internal audit and firm performance influence firm performance.

Institutional theory is organizational research that originated in the 1970s, emphasizing that organizations adopt practices deemed legitimate by their industry peers and are influenced by external and internal norms. It highlights how societal structures shape organizations, impacting their performance and behaviour.

Contingency theory on the other hand asserts that organizational structure and effectiveness are contingent on factors like technology, culture and external environment. This theory emphasises that there is no universal organizational structure, instead, it should align with various contextual factors. Past research has applied these theories to diverse areas, including workgroup, effectiveness and leadership, highlighting its adaptable nature

The primary data collection instrument used in this research was a questionnaire. This questionnaire contained structured questions, both closed-ended and open-ended, designed to gather respondent's views on the study's topic. Before administering the questionnaire, the respondents were encouraged to be truthful and diligent with their responses. These were done to ensure and improve the validity of the data collected. The target population were 10 manufacturing firms within the Ashanti region, with five (5) respondents from each firm.

Regarding the first goal, which was to evaluate the effect of internal audit functions on business performance, it was discovered that internal audit functions play a crucial role in enhancing business performance by identifying and managing risks, ensuring compliance, improving operational efficiency, preventing fraud, offering strategic insights, and encouraging a culture of continuous improvement. They may have both

direct and indirect effects on performance, which eventually aid in the organization's long-term success and sustainability.

The second goal was to investigate the difficulties facing internal audit operations in the Kumasi Metropolis. The findings demonstrated how internal audit functions are impacted to a significant degree by threats and obstacles (resource limitations, the complexity of corporate operations, independence and objectivity, etc.). These difficulties can change based on the sector, the size of the company, and its particular circumstances.

Internal auditing plays a critical role in enhancing firm performance by identifying and managing risks, assuring compliance, enhancing operational efficiency, preventing fraud, providing strategic insights, and encouraging a culture of continuous improvement, according to the study's final objective, which sought to establish the relationship between internal audit and the performance of an organization. The ability of the organization to accomplish its goals and improve overall performance is aided by these contributions taken as a whole.

5.2 Conclusions

The study evaluated the impact of internal audits on business performance using data from Kumasi Metropolis's manufacturing companies. It addressed three research goals, which were to establish a link between internal auditing and organizational performance and to look at how internal audit functions affect organizational performance as well as their obstacles.

Results indicate that there is a significant relationship between internal audit and firm performance, internal audit functions encounter a vast number of challenges and there is a positive relationship between internal audit and organizational performance.

5.3 Recommendations

To enhance the effectiveness of internal auditing and maximize its positive impact on firm performance, the study recommends that:

- Substantial emphasis be placed on internal auditing as results indicate that it improves organizational performance.
- Adopt a risk-based approach to audit planning and execution. Focus audit efforts on high-risk areas that have the greatest potential impact on firm performance.
- Conduct regular risk assessments to identify emerging risks and adjust audit plans accordingly. Risk assessments should consider both internal and external factors.
- Benchmark the internal audit function against industry best practices to identify areas for improvement and optimization.

5.4 Limitations of the Study

While there are numerous manufacturing companies in Ghana, the research study is constrained by limited time and financial resources. Therefore, the study narrows its focus to manufacturing companies specifically operating within the Kumasi metropolis. Additionally, the researcher faces time constraints due to academic responsibilities and endeavours to complete the study within the allotted time frame. Furthermore, a challenge encountered during the research was the reluctance of some respondents to

share information they deemed sensitive or private to their respective organizations. This highlights the potential difficulty in obtaining certain data from participants.

5.5 Suggestions for Future Research

In addition to establishing the effectiveness of internal auditing and its impacts on firm performance, future studies should conduct comparative studies of internal audit practices and their impacts on firm performance across different industries. This will help us understand whether or not industry-specific factors can influence the effectiveness of internal auditing.

Also, future studies could explore the perceptions and expectations of various stakeholders (e.g., shareholders, customers, regulators) regarding the role and impact of internal auditing on firm performance.

REFERENCES

Abdul-Hafiz, A. (2020). Internal Audit Functions, Fraud Prevention, Detection and Reduction in Covered Entities in Upper West Region, Ghana.

Abubakar, N. B. (2009). Auditor Independence Malaysia Accountant Perceptions. *International Journal of Business and Management, 4*(21), 340-351.

Abushaiba, I. A., & Zainuddin, Y. (2022). Performance measurement system design, competitive capability and performance consequence. *International Journal of Business and Social Science, 3*(22)184-193.

Adams (2008). The Chameleon of Accountability. Forms and Discourses. Accounting, Organisations and Society, 20,219-237.

Agwor, T. C. (2017). Fraud prevention and business performance in quoted manufacturing companies in Nigeria. *European Journal of Accounting, Auditing and Finance Research,* 71-80.

Albkour, A. S., & Chaudhry, A. (2017). Effect of Internal Audit on Organizational Performance of Jordanian Banks. *International Research Journal of India, 2*(7). Retrieved from http://irjis.in/

Ali, A. M., Gloeck, J. D., Ali, A., Ahmi, A., & Sahdan, M. H. (2007). Internal audit in the state and local governments of Malaysia. *Southern African Journal of Accountability and Auditing Research, 7*(1).

Alomoush, B. H., & Dr. Al-Shubiri, F. N. (2013). Impact of multiple approaches financial performance. *Journal of Global Business and Economics, 6*(1).

Al-Twaijry, A. M., Brierley, J. A., & G William, D. R. (2003). The development of internal audit in Saudi Arabia: an institutional theory perspective. Critical Perspective on Accounting.

Alzeban, A., & Sawan, N. (2013). The role of internal audit function in the public sector context in Saudi Arabia. *African Journal of Business Management.*

Amarantunga, D., & Baldry, D. (2002). Moving from performance measurement to performance management. Facilities, 217 - 223.

Anderson. (2013). Role of Internal Audit Function in Corporate Governance, A Synthesis of the Extent Internal Auditing Literate And Directions for Future Research. *Journal of Accounting Literature, 23*.

Arefayne, W. (2019). Factors affecting internal audit effectiveness: the case of Ethiopian insurance companies. Addis Ababa University, Accounting and Finance.

Arena, M., & Azzone, G. (2007). Internal Audit Departments: Adoption and Characteristics in Italian Companies. *International Journal of Auditing*.

Arwinge, O. (2013). Internal Control: A Study of Concept and Theme. Heidelberg, Germany:: Physica-Verlag Heidelberg.

Asare, T. (2006). Beating occupational fraud through awareness and prevention. Paper presented at the African Capacity Building Foundation Brown Bag Seminar. Harare, Zimbabwe.

Asare, T. (2008). The Role of Internal Auditing in Public Sector of Ghana: Governance and Accountability. Masters Dissertation. Birmingham, UK.

Australian National Audit Office. (2012). Public Sector Internal Auditing, An Investment in Assurance and Business Improvement. Australian National Audit Office.

Crotty, M. (1998). The foundation of social research: Meaning and perspective in the research process. London: Sage Publication.

Ayman, R., Chemers, M. M., & Fiedler, F. (1995). The contingency model of leadership effectiveness: It's level of analysis. *Leadership Quarterly,* 147-167.

Aytenew, T. (2018). Determinants of Internal Audit Effectiveness: Evidence from Gurage Zone. *Research Journal of Finance and Accounting, 9*(19).

Badara, M. S. (2015). Empirical evidence of performance measurement of internal audit function on its effectiveness. *Academic Journal of Management Seince Research, 1*(1) 1-10.

Basel Committee. (2010). A Global Regulatory Framework for More Resilient Banks and Banking Systems. Basel: Basel Committee on Banking Supervision.

Bastia, P. (2008). Global markets, governance and internal control systems. *Emerging Issues in Management, 1.*

Bethlehem, F. (2009). Internal Audit Practices: A Case of Ethiopian Governmental Higher Educational Institutions.

Bhatia, R. C. (2003). Auditing. Vikas Publishing House.

Biruk, S. (2020). Determinants of Effective Internal Audit in Addis Ababa's Private Sector Industries. Research Thesis for Masters of Business Administration at St. Mary University.

Boohene, R. A. (2006). Tracking the pathway: Explaining the gender difference in performance among small business owners in a transition economy. University of New England, Australia: Unpublished doctoral thesis.

Bonazzi, L., & Islam, S. (2007). Agency theory and corporate governance: A study of the effectiveness of the board in their monitoring of the CEO. *Journal of Modelling in Management, 2*(1).

Boote, D. N., & Beile, P. (2005). Scholars before researchers: On the centrality of the dissertation literature review in research preparation. Educational Researcher.

Bou-Raad, G. (2000). Internal Auditors and a Value-Added Approach: the New Business Regime. *Managerial Auditing Journal, 4*(15).

Brieley, J. A., El-Nafabi, H. M., & Gwilliam, D. R. (2001). The problems of establishing internal audit in the Sudanese public sector. *International Journal of Auditing, 5*(1), 73-87.

Brierley, J. A., El-Hussain, M., & Gwilliam, D. R. (2001). The Problems of Establishing Internal Audit in the Sudanese Public Sector. *International Journal of Auditing.*

Cadez, S., & Guilding, C. (2008). An Exploratory Investigation of an Integrated Contingency Model of Strategic Management Accounting.

Cao Thi Thanh, H., & Cheung, T. (2010). Internal control reporting and accounting quality: Insight compliance or explain internal control regime. (Master's thesis, Umea University, Sweden). Retrieved from Retrieved from http: //diva-portal.org/smash/get/diva2:326919/full text01.pdf.

Chenhall, R. H. (2003). Management Control System Design within its Organisational Context: Findings from Contigency-based research and directions for the future. Accounting Organization and Society, 127-168.

Chopra, M. K. (2012). An Assessment of Internal Audit and Organizational Performance in Banking Sector. An Empirical Presentation. Unpublished Doctoral Thesis. Delhi, India: Department of Business Administration.

Cohen, A., & Sayag, G. (2010). Effectiveness of Internal Auditing: An Empirical Examination of its Determinants in Israeli Organisations. Australian Accounting Review.

Complete Dissertation. (2023). Statics Solution. Retrieved from www.statisticssolutions.com: https://www.statisticssolutions.com/free-resources/directory-of-statistical-analyses/whatis-logistic-regression/

Complete Dissertation. (2023). Statistics Solutions. Retrieved from www.Statisticssolutions.com: U7ON2T3WH57MMMMARVQHT5IOLB7ZDXOHFXAUEB3CQRDA66KLDUX3RXPE5E

Connelly, B. L., Hoskisson, R. E., Tihanyi, L., & Certo, S. T. (2010). Ownership as a form of corporate governance. *Journal of Management Studies, 47*(8).

Cook, J. M., & Clemens, E. S. (1999). Politics and Institutionalism: Explaining Durability and Change. *Annual Review of Sociology*, 441-466.

Cooper, H. (2010). Research synthesis and meta-analysis: A step-by-step approach.

Dacin, M. T., Goodstein, J., & Scott, W. R. (2002). Institutional Theory and Institutional Change: Introduction to the Special Research Forum. *Academy of Management Journal*, 45-57.

Dahir, A. A., & Omar, N. (2016). Effects of Internal Audit Practice on Organizational Performance of Remittance Companies in Mogadishu-Somalia. *Journal of Business Management, 2*(9), 12-33.

Daugherty, B. (2015). Internal Audit Quality and Financial Reporting Quality: The Joint Importance of Independence and Competence. *Journal of Accounting Research.*

De T'Serclaes, P., & Jollands, N. (2007). Mind the gap: Quantifying principal-agent problems in energy efficiency. Paris, France: OECD Publishing.

DiMaggio, P. J., & Powell, W. W. (1983). The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. *American Sociological Review, 48,* 147-160.

DiMaggio, P. J., & Powell, W. W. (1991). The new institutionalism in organisational analysis. Chicago: The University of Chicago Press.

Dogbe, N. C. (2018, March 30). Internal Audit Independence in Ghana Education Service Evidence from Volta Region. Cape Coast, Ghana: Sam Jonah Library UCC.

Donaldson, L. (2001). The contingency theory of organizations. Thousand Oaks, CA: Sage Publications, London.

Drazin, R., & Van de Ven, A. H. (1985). Alternative forms of fit in contingency Theory. *Administrative Science Quarterly,* 514-539.

Eilifsen, A., Messier, W., Glover, S., & Prawaiit, D. (2006). Auditing and assurance services. Berkshire, United Kingdom: McGraw Hill.

Eisenhardt, K. M. (1989). Agency theory. An assessment and review. *The Academy of Management Review, 14.*

El-Mahdy, F. D., & Park, S. M. (2013). Internal control quality and information asymmetry in the secondary loan market. *Review of Quantitative Finance and Accounting*, *43*(4).

Emasu, S. (2010). Public Financial Management: Concepts and Practices.

Endaya, K. A., & Hanefah, M. M. (2013). Internal Audit effectiveness: An approach proposition to develop the theoretical framework. *Research Journal of Finance and Accounting*, 92-109.

Etengu, O., & Nasieku, T. (2015). The Relationship Between Accounting Based Performance Measures and Investment Decisions: A Theoretical Review. *Robert International Journal of Contemporary Applied Sciences, 2*(12).

Evans, M., Hastings, N., & Peacock, B. (2008). Statistical distributions. New York: Wiley.

Fitzgerald, L., & Moon, P. (1996). Performance measurement in service industries: Making it work. The Chartered Institute of Management Accountants. London.

Fry, L. W., & Slocum, J. W. (1984). Technology, structures and workgroup effectiveness: A test of contingency model. *Academy of Management Journal*, 221-246.

Gordon, L. A., Loeb, M. P., & Tseng, C. (2009). Enterprise risk management and firm performance: A contingency Perspective. *J. Account. Public Policy, 28,* 379 - 400.

Gramling, A. (2002). The Contribution of Internal Audit as a Determinant of External Audit Fees and Factors Influencing This Contribution. *Journal of Accounting Research*, 513-534.

Gupta, P. (2001). Internal Audit Reengineering.

Gyasi, K. (2013). Comprehensive approach to auditing: An invaluable guide for the auditing profession. Accra, Ghana: Kwabotwe Hill Publishers.

Haldma, T., & Laats, K. (2002). Contingencies Influencing the Management Accounting Practices of Estonian Manufacturing Companies. *Management Accounting Research, 13*(4).

Haldma, T., & Laats, K. (2022). Contingencies influencing the management accounting practices of Estonian manufacturing companies. *Management Accounting Research,* 172-193.

Hawks, D. (2018). study.com. Retrieved from Retrieved from study.com website: https://study.com/academy/lesson/financial-audit-definition-procedure-requirements.html.

Hayton, J. C. (2005). Promoting Corporate Entrepreneurship through Human Resource Management: A Review of Empirical Research. *American Psychological Association, 15*(1).

Heo, J., & Han, J. (2003). Performance measure of information system in evolving computing environment: An empirical investigation. *Information and Management, 40*, 243 - 256.

Herciu, M., & Serban, A. R. (2018). Measuring Firm Performance: Testing a Proposed Model. Studies in Business and Economics.

Hutchinson, M., & Zain, M. M. (2009). Internal Audit Quality, Audit Committee Independence, Growth Opportunities and Firm Performance. Corporate Ownership and Control, 50-63.

Ingram (2019). Small business. chron. Retrieved from https://small business.chron.com/conduct-financial-audit-10228.html

Institute of Internal Auditors (2009). Definition of Internal Auditing. Altamonte Springs.

Institute of Internal Auditors. (2013). International Professional Practice Framework (IPPF). Florida USA: Institute of Internal Auditors.

Institute of Internal Auditors. (2023). History of the Institute of Internal Auditors. Retrieved from About The Insitute of Internal Auditors: https://www.theiia.org/en/about-us/about-internal-audit/history-of-the-iia/

Jensen, & Meckling. (2007). Debt Financing and Factors Internal to Business', Int. Small Bus., (p. 17).

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial. *Journal of Financial Economics, 3*(1).

Jokipii, A. (2010). Determinants and consequences in the effects of pay range on organizational effectiveness. *Personal Psychology, 62, 4*97 - 531.

Junio-Sabio, C. (2013). The state of internal audit practice in selected Philippine government agencies: basis for policy advocacy. *International Journal of Information Technology and Business Management, 18.*

Kaplan. (2007). *Business analysis:* A complete study text. Berkshire, England: Kaplan Publishing.

Kaplan, R. S. (2009). Risk Management and the Strategy Execution System. Harvard Business Publishing.

Kenton, W. (2018). Emerging Market Economy. Retrieved from http://www.investopedia.com/terms/e/emergingmarketeconomy.asp

Kepes, S., Delery, J., & Gupta, N. (2009). Contingencies in the effects of pay range on organizational effectiveness. *Personal Psychology, 62,* 497-531.

Kim, K. K., & Umanath, N. S. (1993). Structure and perceived effectiveness of software development subunits: A task Contingency Analysis. *Journal of Management Information System, 9*(3)157-181.

Klapper, L., Laeven, L., & Rajan, R. (2006, December). Entry Regulation as a Barrier to Entrepreneurship. *Journal of Financial Economics, 82*(3), 594-629.

Koch, G., Ostner, J., Peisker, M., & Schülke, O. (2009). An analysis of. *Magazine for the Entire Insurance Industry, 98*(3).

Kolawole, P. E., Dairo, J., Jacob, P. A., & Argbesola, O. D. (2020). Internal Audit and financial performance of selected manufacturing industries in the consumer

goods sector listed on the Nigeria Stock Exchange. *IOSR Journal of Business and Management,* 33-58.

Kriger, M., & Seng, Y. (2005). Leadership with Inner Meaning: A contingency theory of leadership based on the world views of five religions. T*he Leadership Quarterly,* 771-806.

Krishnamoorthy, G. (2008). The role of initial audit in the financial statement audit. The contingencies effects of board independence and audit committee effectiveness, 1-29.

Lan, L., & Heracleous, L. (2010). Rethinking agency theory: The view from. *Academy of Management Review, 35*(2).

Lang, K. A. (2006). Cognition, agency theory and organizational failure: A Saskatchewan wheat pool case study. Doctoral dissertation, University of Saskatchewan, Canada.

Lawton, G., Burns, E., & Rosencrance, L. (2022). Logistic Regression. Business Analytics. Retrieved from https://www.techtarget.com/searchbusinessanalytics/definition/logisticregression

Lawton, G., Ed Burns, & Rosencrance, L. (2022). What is predictive analytics? An enterprise guide. Techtarget Business Analytics. Retrieved March 10, 2023, from techtarget.com: https://www.techtarget.com/searchbusinessanalytics/definition/logisticregression

Libguides. (2023). Research Support. Retrieved from University of the Witwatersrand, Johannesburg web site: https://libguides.wits.ac.za/research-support

Lindsay (2015). Implications for Internal Audit. Total Quality Management.

Ljubisavljevic, S., & Jovanovic, D. (2011). Empirical research on the internal audit position of companies in Serbia. *Empirical research on the internal audit position of companies in Serbia., 56*(191), 123-141.

Lombardo, J. (2013). Contingency Theory. Retrieved from Definition and significance to Organizational behaviour: https://study.com/academy/lesson/contingency-theory-definition-and-significance-to-organizational-behavior.html.

Lubatkin, M. H. (2005). A theory of the firm only a microeconomist could love. Journal of Management Inquiry, 14(2), 213-216.

Marshall, C. L., & Rossman, G. B. (2011). Designing qualitative research (5 ed.).

McDonnell, C., Kinsella, D., & Healy, E. (2017). Internal Audit Insights High-Impact Areas of Focus (1st ed.). Retrieved from www2.deloitte.com/content/dam/Deloitte/ie/documents/Audit/Internal-Audit-Hot-Topics-2017.pdf.

Mcshane, M., Nair, A., & Rustambekov, E. (2011). Does Enterprise Risk Management Increase Firm Value? *Journal of Accounting, Auditing and Finance.*

Meyer, J. W., & Rowan, B. (1977). Institutionalized Organisations: Formal Structure as Myth and Ceremony. *American Journal of Sociology*, 340-363.

Mihret, D. G., & Yismaw, A. W. (2007). Internal Audit Effectiveness: An Ethiopian public sector case study. *Managerial Auditing Journal, 22*(5), 470-484.

Mihret, D., James, K., & Mula, J. M. (2010). Antecedents and organisational performance implications of internal audit effectiveness: Some propositions and research agenda. *Pacific Accounting Review.*

Miller, G. J. (2005). The political evolution of principal-agent models. AYajjmpDLunawN9mRtBUbWAMSNG9on1NRL, 8.

Nasrallah, N. A., & Qawasmeth, S. J. (2009). Comparing multi-dimensional contingency fit to the financial performance of organizations. *European Journal of Operational Research, 194*, 911,921.

Nicolaou, A. (2013). Internal Control Effectiveness and Stakeholder Credibility Performance: Evidence from Corporate Governance awarded firms in Thailand. *Journal of Accounting Information System,* 173-186.

Nicolaou, A. I. (2000). A contingency model of perceived effectiveness in accounting information systems: Organizational coordination and control effects. *Internal Journal of Accounting Information Systems, 1*(2).

Ninlaphay, S., & Ngamtampong, N. (2013). Internal control effectiveness in accounting information system: Organizational coordination and control effects. *International Journal of Accounting System,* (3)173-186.

Nishikawa, I., Kamiya, T., & Kawanishi, Y. (2016). The Definitions of Net Income and Comprehensive Income and their Implications for Measurement. *Journal of Accounting Horizons, 30*(4).

Njeri, C. K. (2014). Effect of internal controls on the financial performance of manufacturing firms in Kenya. Retrieved from Retrieved from http://www.chss.uonbi.ac.ke/site/default/.../carol%20kamau%20final%20report.pdf.

Octavia, E. (2013). The effects of implementation on internal audit and good. journal of global business and economics.

Okezie. (2004). Coefficient Alpha and the Internal Structure of Tests. Psychometrika, 297-334.

Onumah, J. M., & Krah, R. Y. (2012). Barriers and Catalysts to Effective Internal Audit in the Ghanaian Public Sector. *Research in Accounting in Emerging Economies.*

Pallant, J. (2007). SPSS survival Manual: A step-by-step guide to data analysis using SPSS version 15. New York: McGraw-Hill.

Oppong, M., Owiredu, A., Abedana, V., & Asante, E. (2016). The Impact of Internal Control on the Performance of Faith-Based NGOs in Accra. *Research Journal of Finance and Accounting, 7,* 110-125.

Pratt, J. W., & Zeckhauser, R. J. (1985). Principals and agents: The structure.

Puffer, S. M., McCarthy, D., & Boisot, M. H. (2010). Entrepreneurship in Russia and China: The Impact of Formal Institutional Voids. Entrepreneurship: *Theory and Practice, 34*(3).

Raja. (2002). Performance Audit in the Service of Internal Audit. *Managerial Auditing Journal.*

Rajwanshi, K. S. (2015). The Effect of Internal Audit on Organizational Performance in Selected Textile Companies in India. Unpublished Doctoral Thesis, Dr. Bhim Rao Ambedkar University. Agra.

Reid, G. C., & Smith, J. A. (2000). The impact of contingencies on management accounting system development. *Management Accounting Research II,* 427 - 450.

Reid, K., & Ashelby, D. (2002). The Swansea Internal Quality Audit Processes Quality Assurance in Education.

Reynolds, M. A. (2000). Professionalism, Ethical Codes and the Internal Auditor: A Moral Argument. *Journal of Business Ethics.*

Ross, S. A. (1973, February). The Economic Theory of Agency: The Principal's Problem. *American Economic Review, 63*(2).

Roy, A. (2016). Corporate Governance and Firm Performance: A Study of Indian Listed Firms. *Jindal Journal of Business Research.*

Rubin, A., & Babbie, E. R. (2001). Research Methods for Social Work (4 ed.). Australia: Wadsworth/Thomson Learning.

Ryn, V. M., & Heaney, C. A. (1992). What's the use of theory? Health Edu Q.

Sarbanes, J. P. (2002). Sarbanes-Oxley Act of 2002. Washington DC: US Congress.

Sarens. (2012). Reflection on Internal Auditing Profession. *Managerial Auditing Journal.*

Sarens, & Abdol Mohammadi. (2010). Theories and Internal Audit.

Sarens, G. (2009). Internal Auditing Research: Where Are We Going? *International Journal of Auditing.*

Sarens, G., & DeBeelde, I. (2006). The Relationship between Internal Audit and Senior Management: A Qualitative Analysis of Expectations and Perceptions. *International Journal of Auditing, 10*(3).

Saud, S., & Marchand, N. (2012). Contribution of Internal Audit in the Achievement of Corporate Goals.

Saunders, M. N., Lewis, P., & Thornhill, A. (2007). Research Methods for Business Students (4 ed.).

Sauser, B., Reilly, R. R., & Shenhar, A. (2009, October). Why do projects fail? How contingency theory can provide new insights – A comparative analysis of NASA's Mars Climate Orbiter loss. *International Journal of Project Management, 27*(7).

Schoohoven, C. (1981). Problems with contingency theory: Testing assumptions hidden within the language of contingency theory. *Administrative Science Quarterly,* 351-377.

Scott, R. W. (1995). Institutions and Organizations. Ideas, Interests and Identities. *Dans Management, 17,* 136-140.

Sharma, A. (1997). Professional as an agent: Knowledge asymmetry in agency exchange. *Academy of Management Review, 22*(3).

Smallbone, D., & Welter, F. (2001). The Distinctiveness of Entrepreneurship in Transition Economies. *Small Business Economics, 16*(4), 249-262.

Statistics Solutions. (2023, February 9). Blog. Retrieved from Statistics Solution Website: https://www.statisticssolutions.com/canonical-correlation/

Stewart, J. D., & Kent, P. (2006). The Use of Internal Audit by Australian Companies. *Managerial Auditing Journal.*

Strickland, A. J., Arthur, T. A., & Gamble, J. E. (2007). fting and Executing Strategy: Text and Readings. New York: McGraw-Hill/Irwin.

Subramaniam, M., Zain, M., & Stewart, J. (2006). Internal auditors' assessment of their contributions to financial statement audits.

Sudsomboon, S., & Ussahawanitchakit, P. (2009). Professional audit competencies: the effects on Thai's CPAS audit quality, reputation and success. *Review of Business Research,* 9 66-85+.

Trochim, & William, M. K. (2001). De Vaus, D. A. Research Design in Social Research. London: Sage.

Taylor, S. (2008). Thinking of research supervision as a form of teaching. Research Supervision: an online journal.

Tewodros, T. (2016). A research Study on "Assessment on Challenges of Internal Audit Practice of Dashen Bank S.C.

Trotman, A., & Duncan, K. (2018). Internal audit quality: Insights from Audit Committee members, senior management and internal auditors. *A Journal of Practice and Theory, 37*(4).

Unegbu, A. O., & Obi, B. C. (2007). Auditing Uwam Enugu.

Valanciene, L., & Gimzauskiene, E. (2009). Dimension of performance measurement system change research. *Engineering Economics,* (4)41-48.

Van Peursem, K. A. (2004). Internal Auditors' Role and Authority – New Zealand Evidence. *Managerial Auditing Journal, 19*(3).

Venkatraman, N., & Ramanujam, V. (1986). Measurement of business performance in strategy research: A comparison of approaches. *Academy of Management Review, 11*(4).

Wallace, W. A., & Kreutzfeldt, R. W. (1991). Distinctive Characteristics of Entities with an Internal Audit Department and the Association of the Quality of such Departments with Errors. *Contemporary Accounting Research, 7*(2).

Waller, S., & Whittington, O. R. (2008). The Influence of the Auditor's Report on Investors after the Sarbanes-Oxley Act. *Managerial Auditing Journal.*

Woods, M. (2009). A Contingency Theory Perspective on the Risk Management Control System within Birmingham City Council. *Management Accounting Research, 20*(1).

Yaghoobi, T., & Haddadi, F. (2016). Organizational performance measurement by a framework integrating BSC and AHP. *International Journal of Productivity and Performance Management.*

Yewubnesh, A. (2018). A study on "Determinants of Internal Audit Quality of Economy Budgetary Public Sectors in Ethiopia. Addis Ababa University, Accounting and Finance.

Yishak, T. (2013). Internal Audit Practices in the Ethiopian Financial Sector

Zimmerman, J. L. (2011). Accounting for decision-making and control. (7 ed.). New York, NY:: McGraw-Hill.

Zucker, L. G. (1987). Institutional Theories of Organisation. *Annual review of Sociology, 13.*

APPENDICES

AKENTEN APPIAH – MENKAH UNIVERSITY OF SKILLS TRAINING AND ENTREPRENEURIAL DEVELOPMENT (AAMUSTED)
SCHOOL OF BUSINESS
DEPARTMENT OF ACCOUNTING
APPENDIX A

Parameter Estimates								
FINPER[a]		**B**	**Std. Error**	**Wald**	**df**	**Sig.**	**Exp(B)**	**95% Confidence Interval for Exp(B)**
								Lower Bound / **Upper Bound**
3.67	Intercept	68.794	10191.360	.000	1	.995		
	[IIA=3.00]	-2.229	106.266	.000	1	.983	.108	3.785E-92 / 3.058E+89
	[IIA=3.50]	-4.203	53.166	.006	1	.937	.015	8.317E-48 / 2.688E+43
	[IIA=3.75]	-4.989	51.332	.009	1	.923	.007	1.380E-46 / 3.365E+41
	[IIA=4.00]	-2.656	42.544	.004	1	.950	.070	4.293E-38 / 114837874
	[IIA=4.25]	-9.198	71.017	.017	1	.897	.000	3.596E-65 / 2.848E+56
	[IIA=4.50]	0[b]	.	.	0	.	.	. / .
	[EIA=3.00]	-51.812	239.765	.047	1	.829	3.152E-23	2.572E-227 / 3.862E+181
	[EIA=3.25]	-9.268	10192.249	.000	1	.999	9.440E-5	.000 / .[c]
	[EIA=3.50]	-.663	67.168	.000	1	.992	.515	3.455E-58 / 7.680E+56
	[EIA=3.75]	-2.904	189.289	.000	1	.988	.055	4.131E-163 / 7.273E+159
	[EIA=4.00]	3.161	35.869	.008	1	.930	23.605	6.933E-30 / 803667326596
	[EIA=4.25]	1.403	29.335	.002	1	.962	4.067	4.359E-25 / 379431857995
	[EIA=4.50]	0[b]	.	.	0	.	.	. / .
	[ICO=3.00]	0[b]	.	.	0	.	.	. / .

	[ICO=3.25]	4.654	10195.768	.000	1	1.000	104.958	.000	.[c]
	[ICO=3.50]	7.310	137.345	.003	1	.958	1494.629	1.846E-114	1.210E+120
	[ICO=3.75]	-.012	126.967	.000	1	1.000	.988	8.332E-109	1.172E+108
	[ICO=4.00]	3.312	65.109	.003	1	.959	27.437	1.041E-54	7.229E+56
	[ICO=4.25]	-1.242	73.652	.000	1	.987	.289	5.863E-64	1.423E+62
	[ICO=4.50]	-7.769	71.095	.012	1	.913	.000	1.286E-64	1.388E+57
	[ICO=4.75]	0[b]	.	.	0	.	.	.	.
	[MON=3.00]	-59.832	478.667	.016	1	.901	1.036E-26	.000	.[c]
	[MON=3.25]	0[b]	.	.	0	.	.	.	.
	[MON=3.50]	-46.804	266.380	.031	1	.861	4.711E-21	8.508E-248	2.609E+206
	[MON=3.75]	-44.764	200.591	.050	1	.823	3.625E-20	6.550E-191	2.006E+151
	[MON=4.00]	-57.706	49.086	1.382	1	.240	8.683E-26	1.435E-67	5255183049
	[MON=4.25]	-51.462	25.449	4.089	1	.043	4.470E-23	9.731E-45	.205
	[MON=4.50]	-51.827	.000	.	1	.	3.104E-23	3.104E-23	3.104E-23
	[MON=4.75]	0[b]	.	.	0	.	.	.	.
	[RKM=3.50]	-12.780	10191.046	.000	1	.999	2.817E-6	.000	.[c]
	[RKM=3.75]	-18.816	10191.505	.000	1	.999	6.737E-9	.000	.[c]
	[RKM=4.00]	-14.896	10190.753	.000	1	.999	3.393E-7	.000	.[c]
	[RKM=4.25]	-8.112	10190.669	.000	1	.999	.000	.000	.[c]
	[RKM=4.50]	-13.059	10190.817	.000	1	.999	2.130E-6	.000	.[c]
	[RKM=4.75]	0[b]	.	.	0	.	.	.	.
3.75	Intercept	14.684	10190.719	.000	1	.999			
	[IIA=3.00]	5.799	164.269	.001	1	.972	329.810	4.926E-138	2.208E+142
	[IIA=3.50]	3.064	65.366	.002	1	.963	21.421	4.911E-55	9.343E+56
	[IIA=3.75]	1.348	64.103	.000	1	.983	3.851	1.049E-54	1.414E+55
	[IIA=4.00]	8.995	62.498	.021	1	.886	8060.588	5.106E-50	1.272E+57

[IIA=4.25]	-1.707	17.496	.010	1	.922	.181	2.324E-16	141752210787744.750
[IIA=4.50]	0[b]	.	.	0	.	.	.	.
[EIA=3.00]	-.303	257.692	.000	1	.999	.739	3.315E-220	1.646E+219
[EIA=3.25]	-15.935	10193.083	.000	1	.999	1.201E-7	.000	.[c]
[EIA=3.50]	-3.607	116.291	.001	1	.975	.027	2.795E-101	2.634E+97
[EIA=3.75]	-6.815	195.165	.001	1	.972	.001	8.230E-170	1.463E+163
[EIA=4.00]	6.939	37.824	.034	1	.854	1031.765	6.569E-30	162063580832
[EIA=4.25]	2.183	22.923	.009	1	.924	8.875	2.731E-19	288410314069
[EIA=4.50]	0[b]	.	.	0	.	.	.	.
[ICO=3.00]	0[b]	.	.	0	.	.	.	.
[ICO=3.25]	11.057	10196.698	.000	1	.999	63412.302	.000	.[c]
[ICO=3.50]	17.292	200.343	.007	1	.931	32342299.205	9.496E-164	1.102E+178
[ICO=3.75]	-.964	156.926	.000	1	.995	.381	1.012E-134	1.435E+133
[ICO=4.00]	8.578	115.943	.005	1	.941	5311.130	1.083E-95	2.605E+102
[ICO=4.25]	-3.671	62.514	.003	1	.953	.025	1.562E-55	4.149E+51
[ICO=4.50]	-8.584	60.712	.020	1	.888	.000	3.927E-56	8.918E+47
[ICO=4.75]	0[b]	.	.	0	.	.	.	.
[MON=3.00]	-21.750	480.542	.002	1	.964	3.582E-10	.000	.[c]
[MON=3.25]	0[b]	.	.	0	.	.	.	.
[MON=3.50]	5.432	300.119	.000	1	.986	228.692	7.899E-254	6.621E+257
[MON=3.75]	14.461	209.831	.005	1	.945	1907451.373	4.698E-173	7.744E+184
[MON=4.00]	-12.887	115.755	.012	1	.911	2.531E-6	7.451E-105	8.596E+92
[MON=4.25]	-.311	29.512	.000	1	.992	.733	5.553E-26	966687627897
[MON=4.50]	-4.394	.000	.	1	.	.012	.012	.012
[MON=4.75]	0[b]	.	.	0	.	.	.	.
[RKM=3.50]	-17.446	10191.509	.000	1	.999	2.651E-8	.000	.[c]

	[RKM=3.75]	-33.472	10192.379	.000	1	.997	2.907E-15	.000	.[c]
	[RKM=4.00]	-20.008	10190.807	.000	1	.998	2.044E-9	.000	.[c]
	[RKM=4.25]	-10.681	10190.709	.000	1	.999	2.298E-5	.000	.[c]
	[RKM=4.50]	.490	10190.538	.000	1	1.000	1.632	.000	.[c]
	[RKM=4.75]	0[b]	.	.	0	.	.	.	.
3.83	Intercept	22.580	10191.318	.000	1	.998			
	[IIA=3.00]	-4.753	197.099	.001	1	.981	.009	1.462E-170	5.090E+165
	[IIA=3.50]	-8.819	85.453	.011	1	.918	.000	2.708E-77	8.079E+68
	[IIA=3.75]	-1.279	42.721	.001	1	.976	.278	1.204E-37	642999835741
	[IIA=4.00]	-1.985	39.684	.003	1	.960	.137	2.282E-35	826418084098
	[IIA=4.25]	-10.936	76.036	.021	1	.886	1.780E-5	3.374E-70	9.387E+59
	[IIA=4.50]	0[b]	.	.	0	.	.	.	.
	[EIA=3.00]	-10.967	270.389	.002	1	.968	1.726E-5	1.207E-235	2.468E+225
	[EIA=3.25]	-11.267	10191.544	.000	1	.999	1.279E-5	.000	.[c]
	[EIA=3.50]	-2.293	104.179	.000	1	.982	.101	2.123E-90	4.805E+87
	[EIA=3.75]	-2.083	224.682	.000	1	.993	.125	7.010E-193	2.215E+190
	[EIA=4.00]	7.077	37.763	.035	1	.851	1184.304	8.502E-30	164960677125
	[EIA=4.25]	-.780	50.395	.000	1	.988	.458	5.816E-44	3.613E+42
	[EIA=4.50]	0[b]	.	.	0	.	.	.	.
	[ICO=3.00]	0[b]	.	.	0	.	.	.	.
	[ICO=3.25]	1.481	10194.867	.000	1	1.000	4.397	.000	.[c]
	[ICO=3.50]	-.503	177.615	.000	1	.998	.605	3.942E-152	9.277E+150
	[ICO=3.75]	-3.898	122.450	.001	1	.975	.020	1.195E-106	3.440E+102
	[ICO=4.00]	-.796	98.840	.000	1	.994	.451	3.322E-85	6.123E+83
	[ICO=4.25]	-2.197	67.634	.001	1	.974	.111	2.989E-59	4.133E+56
	[ICO=4.50]	-8.379	63.902	.017	1	.896	.000	9.280E-59	5.678E+50

	[ICO=4.75]	0[b]	.	.	0	.	.	.	.
	[MON=3.00]	-24.081	474.305	.003	1	.960	3.481E-11	.000	.[c]
	[MON=3.25]	0[b]	.	.	0	.	.	.	.
	[MON=3.50]	-4.951	242.954	.000	1	.984	.007	1.113E-209	4.497E+204
	[MON=3.75]	1.377	233.965	.000	1	.995	3.962	2.794E-199	5.617E+199
	[MON=4.00]	-5.435	59.706	.008	1	.927	.004	6.574E-54	2.892E+48
	[MON=4.25]	-1.116	34.020	.001	1	.974	.328	3.608E-30	297333612597
	[MON=4.50]	-3.264	.000	.	1	.	.038	.038	.038
	[MON=4.75]	0[b]	.	.	0	.	.	.	.
	[RKM=3.50]	-2.794	10190.568	.000	1	1.000	.061	.000	.[c]
	[RKM=3.75]	-16.428	10191.118	.000	1	.999	7.338E-8	.000	.[c]
	[RKM=4.00]	-18.397	10190.881	.000	1	.999	1.024E-8	.000	.[c]
	[RKM=4.25]	-11.355	10190.887	.000	1	.999	1.171E-5	.000	.[c]
	[RKM=4.50]	-14.462	10190.837	.000	1	.999	5.237E-7	.000	.[c]
	[RKM=4.75]	0[b]	.	.	0	.	.	.	.
3.88	Intercept	17.497	8825.570	.000	1	.998			
	[IIA=3.00]	-1.681	58.502	.001	1	.977	.186	2.973E-51	1.166E+49
	[IIA=3.50]	-6.051	38.269	.025	1	.874	.002	6.278E-36	883943976974
	[IIA=3.75]	-4.589	37.326	.015	1	.902	.010	1.718E-34	601510814643
	[IIA=4.00]	-4.472	34.095	.017	1	.896	.011	1.087E-31	120064054105
	[IIA=4.25]	-8.357	39.341	.045	1	.832	.000	7.649E-38	720516952024
	[IIA=4.50]	0[b]	.	.	0	.	.	.	.
	[EIA=3.00]	2.724	205.974	.000	1	.989	15.239	7.211E-175	3.221E+176
	[EIA=3.25]	-1.941	8826.793	.000	1	1.000	.144	.000	.[c]
	[EIA=3.50]	2.108	45.494	.002	1	.963	8.235	1.552E-38	4.370E+39
	[EIA=3.75]	3.691	177.248	.000	1	.983	40.075	5.358E-150	2.997E+152

	[EIA=4.00]	7.818	28.134	.077	1	.781	2483.816	2.800E-21	22031180779
	[EIA=4.25]	1.877	22.938	.007	1	.935	6.534	1.951E-19	21886965040
	[EIA=4.50]	0[b]	.	.	0	.	.	.	.
	[ICO=3.00]	0[b]	.	.	0	.	.	.	.
	[ICO=3.25]	-.158	8829.483	.000	1	1.000	.854	.000	.[c]
	[ICO=3.50]	1.990	132.578	.000	1	.988	7.314	1.032E-112	5.185E+113
	[ICO=3.75]	.938	108.877	.000	1	.993	2.555	5.387E-93	1.212E+93
	[ICO=4.00]	2.381	37.011	.004	1	.949	10.816	3.389E-31	34521889717735210
	[ICO=4.25]	2.736	40.761	.005	1	.946	15.419	3.104E-34	765991261124
	[ICO=4.50]	-6.752	46.556	.021	1	.885	.001	2.750E-43	4.964E+36
	[ICO=4.75]	0[b]	.	.	0	.	.	.	.
	[MON=3.00]	-9.053	413.107	.000	1	.983	.000	.000	.[c]
	[MON=3.25]	0[b]	.	.	0	.	.	.	.
	[MON=3.50]	4.092	225.892	.000	1	.986	59.852	3.142E-191	1.140E+194
	[MON=3.75]	-3.574	182.144	.000	1	.984	.028	2.552E-157	3.081E+153
	[MON=4.00]	-4.090	35.935	.013	1	.909	.017	4.319E-33	648119371811
	[MON=4.25]	-2.411	18.334	.017	1	.895	.090	2.223E-17	36199321303
	[MON=4.50]	-1.695	.000	.	1	.	.184	.184	.184
	[MON=4.75]	0[b]	.	.	0	.	.	.	.
	[RKM=3.50]	-13.477	8825.442	.000	1	.999	1.403E-6	.000	.[c]
	[RKM=3.75]	-15.369	8826.568	.000	1	.999	2.115E-7	.000	.[c]
	[RKM=4.00]	-15.067	8825.367	.000	1	.999	2.860E-7	.000	.[c]
	[RKM=4.25]	-7.010	8825.301	.000	1	.999	.001	.000	.[c]
	[RKM=4.50]	-14.131	8825.427	.000	1	.999	7.292E-7	.000	.[c]
	[RKM=4.75]	0[b]	.	.	0	.	.	.	.
3.92	Intercept	38.076	7206.412	.000	1	.996			

[IIA=3.00]	-.134	62.053	.000	1	.998	.874	1.324E-53	5.775E+52
[IIA=3.50]	-5.451	42.213	.017	1	.897	.004	5.019E-39	366748707637
[IIA=3.75]	-2.313	35.245	.004	1	.948	.099	9.897E-32	990533609811
[IIA=4.00]	-2.495	30.299	.007	1	.934	.083	1.336E-27	509821514174
[IIA=4.25]	-8.587	50.415	.029	1	.865	.000	2.279E-47	1.528E+39
[IIA=4.50]	0[b]	.	.	0	.	.	.	.
[EIA=3.00]	-.096	195.478	.000	1	1.000	.908	3.687E-167	2.237E+166
[EIA=3.25]	-4.243	8321.519	.000	1	1.000	.014	.000	.[c]
[EIA=3.50]	2.182	50.888	.002	1	.966	8.861	4.281E-43	1.834E+44
[EIA=3.75]	10.212	110.807	.008	1	.927	27231.004	1.307E-90	5.674E+98
[EIA=4.00]	4.862	28.796	.029	1	.866	129.326	3.986E-23	419573559908
[EIA=4.25]	2.228	20.492	.012	1	.913	9.280	3.345E-17	25747393560
[EIA=4.50]	0[b]	.	.	0	.	.	.	.
[ICO=3.00]	0[b]	.	.	0	.	.	.	.
[ICO=3.25]	5.114	8324.437	.000	1	1.000	166.355	.000	.[c]
[ICO=3.50]	1.992	99.161	.000	1	.984	7.330	2.878E-84	1.867E+85
[ICO=3.75]	5.576	82.441	.005	1	.946	264.027	1.768E-68	3.944E+72
[ICO=4.00]	.196	49.775	.000	1	.997	1.216	5.202E-43	2.844E+42
[ICO=4.25]	-2.429	53.716	.002	1	.964	.088	1.667E-47	4.657E+44
[ICO=4.50]	-8.562	53.130	.026	1	.872	.000	1.141E-49	3.206E+41
[ICO=4.75]	0[b]	.	.	0	.	.	.	.
[MON=3.00]	-8.111	389.342	.000	1	.983	.000	.000	.[c]
[MON=3.25]	0[b]	.	.	0	.	.	.	.
[MON=3.50]	-2.537	209.205	.000	1	.990	.079	6.643E-180	9.419E+176
[MON=3.75]	-10.394	118.227	.008	1	.930	3.061E-5	7.100E-106	1.320E+96
[MON=4.00]	-7.286	32.208	.051	1	.821	.001	2.632E-31	178197203624

	[MON=4.25]	-1.225	14.299	.007	1	.932	.294	1.978E-13	435961712765
	[MON=4.50]	-3.163	.000	.	1	.	.042	.042	.042
	[MON=4.75]	0[b]	.	.	0	.	.	.	.
	[RKM=3.50]	-31.430	7206.262	.000	1	.997	2.239E-14	.000	.[c]
	[RKM=3.75]	-33.882	7206.514	.000	1	.996	1.928E-15	.000	.[c]
	[RKM=4.00]	-32.054	7205.961	.000	1	.996	1.200E-14	.000	.[c]
	[RKM=4.25]	-26.530	7205.919	.000	1	.997	3.006E-12	.000	.[c]
	[RKM=4.50]	-28.954	7205.986	.000	1	.997	2.663E-13	.000	.[c]
	[RKM=4.75]	0[b]	.	.	0	.	.	.	.
4.00	Intercept	23.001	8320.677	.000	1	.998			
	[IIA=3.00]	-3.181	71.546	.002	1	.965	.042	5.232E-63	3.300E+59
	[IIA=3.50]	-4.461	40.378	.012	1	.912	.012	4.929E-37	270542689606
	[IIA=3.75]	-5.267	33.455	.025	1	.875	.005	1.722E-31	154579133627
	[IIA=4.00]	-1.074	30.599	.001	1	.972	.342	3.072E-27	379933978324
	[IIA=4.25]	-11.615	29.992	.150	1	.699	9.025E-6	2.670E-31	305108872104
	[IIA=4.50]	0[b]	.	.	0	.	.	.	.
	[EIA=3.00]	-2.810	192.103	.000	1	.988	.060	1.827E-165	1.986E+162
	[EIA=3.25]	5.151	7206.902	.000	1	.999	172.666	.000	.[c]
	[EIA=3.50]	-1.715	40.737	.002	1	.966	.180	3.799E-36	851992024456
	[EIA=3.75]	-4.900	132.022	.001	1	.970	.007	3.120E-115	1.776E+110
	[EIA=4.00]	1.349	25.079	.003	1	.957	3.853	1.730E-21	857904857214
	[EIA=4.25]	-1.134	15.835	.005	1	.943	.322	1.069E-14	968686681369
	[EIA=4.50]	0[b]	.	.	0	.	.	.	.
	[ICO=3.00]	0[b]	.	.	0	.	.	.	.
	[ICO=3.25]	-14.633	7209.564	.000	1	.998	4.415E-7	.000	.[c]
	[ICO=3.50]	5.490	88.549	.004	1	.951	242.167	1.025E-73	5.720E+77

	[ICO=3.75]	-2.730	71.542	.001	1	.970	.065	8.277E-63	5.134E+59
	[ICO=4.00]	.964	35.244	.001	1	.978	2.623	2.623E-30	262353286974
	[ICO=4.25]	-3.260	35.721	.008	1	.927	.038	1.507E-32	977209395725
	[ICO=4.50]	-12.222	32.752	.139	1	.709	4.919E-6	6.501E-34	372265891645
	[ICO=4.75]	0[b]	.	.	0	.	.	.	.
	[MON=3.00]	-8.510	387.596	.000	1	.982	.000	.000	.[c]
	[MON=3.25]	0[b]	.	.	0	.	.	.	.
	[MON=3.50]	7.075	199.691	.001	1	.972	1182.135	1.246E-167	1.121E+173
	[MON=3.75]	9.093	137.503	.004	1	.947	8895.963	8.060E-114	9.818E+120
	[MON=4.00]	-4.991	28.043	.032	1	.859	.007	9.162E-27	504344096381
	[MON=4.25]	-.151	12.937	.000	1	.991	.860	8.368E-12	88370046475.
	[MON=4.50]	1.936	.000	.	1	.	6.928	6.928	6.928
	[MON=4.75]	0[b]	.	.	0	.	.	.	.
	[RKM=3.50]	-14.631	8320.680	.000	1	.999	4.423E-7	.000	.[c]
	[RKM=3.75]	-19.784	8321.084	.000	1	.998	2.557E-9	.000	.[c]
	[RKM=4.00]	-17.568	8320.567	.000	1	.998	2.346E-8	.000	.[c]
	[RKM=4.25]	-7.176	8320.560	.000	1	.999	.001	.000	.[c]
	[RKM=4.50]	-16.558	8320.586	.000	1	.998	6.441E-8	.000	.[c]
	[RKM=4.75]	0[b]	.	.	0	.	.	.	.
4.08	Intercept	22.882	8056.523	.000	1	.998			
	[IIA=3.00]	-.283	49.844	.000	1	.995	.754	2.816E-43	2.016E+42
	[IIA=3.50]	-4.923	41.061	.014	1	.905	.007	8.144E-38	649697556397
	[IIA=3.75]	-2.865	36.057	.006	1	.937	.057	1.159E-32	279978694525
	[IIA=4.00]	-1.553	30.313	.003	1	.959	.212	3.335E-27	134242058146
	[IIA=4.25]	-10.232	34.390	.089	1	.766	3.601E-5	1.921E-34	675045330969
	[IIA=4.50]	0[b]	.	.	0	.	.	.	.

[EIA=3.00]	-4.366	186.247	.001	1	.981	.013	3.717E-161	4.336E+156
[EIA=3.25]	-16.719	8056.889	.000	1	.998	5.480E-8	.000	.[c]
[EIA=3.50]	2.492	35.420	.005	1	.944	12.088	8.566E-30	170580616261
[EIA=3.75]	-8.190	120.918	.005	1	.946	.000	3.295E-107	2.334E+99
[EIA=4.00]	2.140	28.252	.006	1	.940	8.495	7.602E-24	949385650698
[EIA=4.25]	4.526	17.266	.069	1	.793	92.416	1.859E-13	4593975851925569 6.000
[EIA=4.50]	0[b]	.	.	0	.	.	.	.
[ICO=3.00]	0[b]	.	.	0	.	.	.	.
[ICO=3.25]	8.140	8059.210	.000	1	.999	3428.318	.000	.[c]
[ICO=3.50]	9.617	69.280	.019	1	.890	15019.685	1.606E-55	1.405E+63
[ICO=3.75]	-2.242	87.280	.001	1	.980	.106	5.414E-76	2.084E+73
[ICO=4.00]	1.399	37.608	.001	1	.970	4.052	3.942E-32	416449612948
[ICO=4.25]	-3.279	40.960	.006	1	.936	.038	5.134E-37	276369811188
[ICO=4.50]	-9.360	38.159	.060	1	.806	8.613E-5	2.845E-37	260742086305
[ICO=4.75]	0[b]	.	.	0	.	.	.	.
[MON=3.00]	-11.276	374.211	.001	1	.976	1.268E-5	.000	.[c]
[MON=3.25]	0[b]	.	.	0	.	.	.	.
[MON=3.50]	3.184	196.669	.000	1	.987	24.143	9.507E-167	6.131E+168
[MON=3.75]	9.502	128.165	.005	1	.941	13391.491	1.077E-105	1.665E+113
[MON=4.00]	-7.282	30.229	.058	1	.810	.001	1.277E-29	370313622414
[MON=4.25]	-.996	6.308	.025	1	.874	.369	1.577E-6	86459.042
[MON=4.50]	-1.905	.000	.	1	.	.149	.149	.149
[MON=4.75]	0[b]	.	.	0	.	.	.	.
[RKM=3.50]	-12.206	8056.409	.000	1	.999	5.000E-6	.000	.[c]
[RKM=3.75]	-16.744	8056.800	.000	1	.998	5.347E-8	.000	.[c]
[RKM=4.00]	-16.664	8056.373	.000	1	.998	5.793E-8	.000	.[c]

	[RKM=4.25]	-10.763	8056.350	.000	1	.999	2.117E-5	.000	.[c]
	[RKM=4.50]	-13.550	8056.396	.000	1	.999	1.303E-6	.000	.[c]
	[RKM=4.75]	0[b]	.	.	0	.	.	.	.
4.17	Intercept	16.496	7893.632	.000	1	.998			
	[IIA=3.00]	-.532	56.937	.000	1	.993	.587	2.015E-49	1.712E+48
	[IIA=3.50]	-6.621	30.300	.048	1	.827	.001	2.154E-29	824301059463
	[IIA=3.75]	-4.712	28.460	.027	1	.868	.009	5.350E-27	150893961417
	[IIA=4.00]	-3.676	24.020	.023	1	.878	.025	9.072E-23	707077130295
	[IIA=4.25]	-7.366	18.067	.166	1	.683	.001	2.642E-19	151276146418
	[IIA=4.50]	0[b]	.	.	0	.	.	.	.
	[EIA=3.00]	.079	182.160	.000	1	1.000	1.082	9.533E-156	1.228E+155
	[EIA=3.25]	-7.116	7894.401	.000	1	.999	.001	.000	.[c]
	[EIA=3.50]	3.276	35.529	.009	1	.927	26.462	1.515E-29	462101980537
	[EIA=3.75]	2.617	131.710	.000	1	.984	13.701	1.060E-111	1.771E+113
	[EIA=4.00]	5.127	25.038	.042	1	.838	168.506	8.214E-20	345660743426
	[EIA=4.25]	3.615	14.771	.060	1	.807	37.138	9.929E-12	138902020563
	[EIA=4.50]	0[b]	.	.	0	.	.	.	.
	[ICO=3.00]	0[b]	.	.	0	.	.	.	.
	[ICO=3.25]	8.645	7896.617	.000	1	.999	5682.441	.000	.[c]
	[ICO=3.50]	1.684	87.170	.000	1	.985	5.387	3.407E-74	8.518E+74
	[ICO=3.75]	-1.771	83.254	.000	1	.983	.170	2.316E-72	1.250E+70
	[ICO=4.00]	1.043	31.289	.001	1	.973	2.837	6.604E-27	121878990155
	[ICO=4.25]	-1.335	34.659	.001	1	.969	.263	8.280E-31	836132733516
	[ICO=4.50]	-6.943	31.700	.048	1	.827	.001	1.003E-30	929298480312
	[ICO=4.75]	0[b]	.	.	0	.	.	.	.
	[MON=3.00]	-9.036	367.014	.001	1	.980	.000	.000	.[c]

	[MON=3.25]	0[b]	.	.	0	.	.	.	.
	[MON=3.50]	2.596	192.697	.000	1	.989	13.405	1.268E-163	1.418E+165
	[MON=3.75]	-1.581	137.077	.000	1	.991	.206	4.295E-118	9.856E+115
	[MON=4.00]	-8.246	28.667	.083	1	.774	.000	1.042E-28	660747265921
	[MON=4.25]	-2.641	8.488	.097	1	.756	.071	4.244E-9	1198331.593
	[MON=4.50]	-.577	.000	.	1	.	.561	.561	.561
	[MON=4.75]	0[b]	.	.	0	.	.	.	.
	[RKM=3.50]	-8.345	7893.627	.000	1	.999	.000	.000	.[c]
	[RKM=3.75]	-13.491	7894.193	.000	1	.999	1.384E-6	.000	.[c]
	[RKM=4.00]	-9.876	7893.572	.000	1	.999	5.142E-5	.000	.[c]
	[RKM=4.25]	-4.929	7893.560	.000	1	1.000	.007	.000	.[c]
	[RKM=4.50]	-5.688	7893.565	.000	1	.999	.003	.000	.[c]
	[RKM=4.75]	0[b]	.	.	0	.	.	.	.
4.25	Intercept	22.864	7526.322	.000	1	.998			
	[IIA=3.00]	-4.453	43.711	.010	1	.919	.012	7.236E-40	187400094757
	[IIA=3.50]	-4.496	30.620	.022	1	.883	.011	9.621E-29	129248489023
	[IIA=3.75]	-7.543	29.884	.064	1	.801	.001	1.937E-29	144809475792
	[IIA=4.00]	-4.981	25.211	.039	1	.843	.007	2.382E-24	197788791459
	[IIA=4.25]	-10.719	24.405	.193	1	.660	2.211E-5	3.725E-26	131233922614
	[IIA=4.50]	0[b]	.	.	0	.	.	.	.
	[EIA=3.00]	-4.085	173.827	.001	1	.981	.017	1.836E-150	1.541E+146
	[EIA=3.25]	-9.517	7526.852	.000	1	.999	7.362E-5	.000	.[c]
	[EIA=3.50]	-.635	33.606	.000	1	.985	.530	1.314E-29	213623562037
	[EIA=3.75]	-4.147	115.846	.001	1	.971	.016	3.894E-101	6.424E+96
	[EIA=4.00]	3.625	24.755	.021	1	.884	37.531	3.186E-20	442188622316
	[EIA=4.25]	.395	15.788	.001	1	.980	1.484	5.401E-14	40767092609482.234

[EIA=4.50]	0[b]	.	.	0	.	.	.	.
[ICO=3.00]	0[b]	.	.	0	.	.	.	.
[ICO=3.25]	4.411	7528.926	.000	1	1.000	82.372	.000	.[c]
[ICO=3.50]	6.833	70.530	.009	1	.923	928.103	8.552E-58	1.007E+63
[ICO=3.75]	-2.679	75.640	.001	1	.972	.069	2.830E-66	1.666E+63
[ICO=4.00]	3.262	30.068	.012	1	.914	26.114	6.657E-25	102447252271
[ICO=4.25]	-3.215	34.219	.009	1	.925	.040	2.992E-31	538548862488
[ICO=4.50]	-8.301	30.856	.072	1	.788	.000	1.349E-30	456511755263
[ICO=4.75]	0[b]	.	.	0	.	.	.	.
[MON=3.00]	-10.488	349.780	.001	1	.976	2.788E-5	5.153E-303	1.508E+293
[MON=3.25]	0[b]	.	.	0	.	.	.	.
[MON=3.50]	4.817	182.079	.001	1	.979	123.539	1.276E-153	1.196E+157
[MON=3.75]	11.254	120.642	.009	1	.926	77200.952	1.574E-98	3.785E+107
[MON=4.00]	-8.667	25.875	.112	1	.738	.000	1.626E-26	182526965882
[MON=4.25]	-.692	6.753	.010	1	.918	.501	8.939E-7	280401.408
[MON=4.50]	-1.445	.000	.	1	.	.236	.236	.236
[MON=4.75]	0[b]	.	.	0	.	.	.	.
[RKM=3.50]	-11.884	7526.279	.000	1	.999	6.897E-6	.000	.[c]
[RKM=3.75]	-18.605	7526.731	.000	1	.998	8.319E-9	.000	.[c]
[RKM=4.00]	-12.269	7526.229	.000	1	.999	4.695E-6	.000	.[c]
[RKM=4.25]	-5.028	7526.220	.000	1	.999	.007	.000	.[c]
[RKM=4.50]	-13.134	7526.240	.000	1	.999	1.976E-6	.000	.[c]
[RKM=4.75]	0[b]	.	.	0	.	.	.	.

Intercept	22.111	7893.842	.000	1	.998			
[IIA=3.00]	-.714	44.273	.000	1	.987	.490	1.010E-38	2.375E+37
[IIA=3.50]	-7.416	35.329	.044	1	.834	.001	5.095E-34	709488504642
[IIA=3.75]	-8.624	34.465	.063	1	.802	.000	8.278E-34	390631197300
[IIA=4.00]	-6.587	30.671	.046	1	.830	.001	1.077E-29	176510400548
[IIA=4.25]	-11.689	35.984	.106	1	.745	8.382E-6	1.968E-36	357055473561
[IIA=4.50]	0[b]	.	.	0	.	.	.	.
[EIA=3.00]	.705	185.660	.000	1	.997	2.025	1.873E-158	2.189E+158
[EIA=3.25]	-15.806	7894.184	.000	1	.998	1.366E-7	.000	.[c]
[EIA=3.50]	-3.229	39.286	.007	1	.934	.040	1.436E-35	109117802752
[EIA=3.75]	-5.069	122.493	.002	1	.967	.006	3.405E-107	1.161E+102
[EIA=4.00]	3.029	25.592	.014	1	.906	20.685	3.402E-21	125776880718
[EIA=4.25]	-.045	17.830	.000	1	.998	.956	6.360E-16	1435515042149448.800
[EIA=4.50]	0[b]	.	.	0	.	.	.	.
[ICO=3.00]	0[b]	.	.	0	.	.	.	.
[ICO=3.25]	12.382	7896.310	.000	1	.999	238455.987	.000	.[c]
[ICO=3.50]	10.314	70.816	.021	1	.884	30150.941	1.588E-56	5.725E+64
[ICO=3.75]	.245	79.455	.000	1	.998	1.278	2.982E-68	5.479E+67
[ICO=4.00]	6.053	36.866	.027	1	.870	425.511	1.771E-29	102263291689
[ICO=4.25]	-.526	44.242	.000	1	.991	.591	1.297E-38	2.692E+37
[ICO=4.50]	-8.307	42.457	.038	1	.845	.000	1.791E-40	340347833795
[ICO=4.75]	0[b]	.	.	0	.	.	.	.
[MON=3.00]	.793	336.879	.000	1	.998	2.210	3.912E-287	1.248E+287
[MON=3.25]	0[b]	.	.	0	.	.	.	.
[MON=3.50]	4.733	191.182	.001	1	.980	113.628	2.096E-161	6.161E+164

	[MON=3.75]	7.106	127.929	.003	1	.956	1219.669	1.560E-106	9.535E+111
	[MON=4.00]	-7.767	34.042	.052	1	.820	.000	4.466E-33	401294523509
	[MON=4.25]	-2.030	18.566	.012	1	.913	.131	2.064E-17	835622873342
	[MON=4.50]	-.506	.000	.	1	.	.603	.603	.603
	[MON=4.75]	0[b]	.	.	0	.	.	.	.
	[RKM=3.50]	-13.791	7893.681	.000	1	.999	1.025E-6	.000	.[c]
	[RKM=3.75]	-14.771	7894.071	.000	1	.999	3.845E-7	.000	.[c]
	[RKM=4.00]	-13.389	7893.601	.000	1	.999	1.532E-6	.000	.[c]
	[RKM=4.25]	-7.079	7893.588	.000	1	.999	.001	.000	.[c]
	[RKM=4.50]	-12.858	7893.629	.000	1	.999	2.605E-6	.000	.[c]
	[RKM=4.75]	0[b]	.	.	0	.	.	.	.
4.38	Intercept	24.191	10191.921	.000	1	.998			
	[IIA=3.00]	-8.654	115.910	.006	1	.940	.000	3.788E-103	8.030E+94
	[IIA=3.50]	-2.604	104.261	.001	1	.980	.074	1.323E-90	4.133E+87
	[IIA=3.75]	-5.252	104.133	.003	1	.960	.005	1.205E-91	2.275E+86
	[IIA=4.00]	-4.352	102.399	.002	1	.966	.013	8.871E-90	1.872E+85
	[IIA=4.25]	-13.997	147.163	.009	1	.924	8.342E-7	4.526E-132	1.537E+119
	[IIA=4.50]	0[b]	.	.	0	.	.	.	.
	[EIA=3.00]	2.736	240.127	.000	1	.991	15.423	6.186E-204	3.845E+205
	[EIA=3.25]	-10.880	10191.756	.000	1	.999	1.883E-5	.000	.[c]
	[EIA=3.50]	-10.679	82.154	.017	1	.897	2.302E-5	2.706E-75	1.959E+65
	[EIA=3.75]	-16.028	168.364	.009	1	.924	1.094E-7	5.337E-151	2.244E+136
	[EIA=4.00]	-2.333	41.915	.003	1	.956	.097	2.034E-37	462715166602000
	[EIA=4.25]	8.578	63.222	.018	1	.892	5313.569	8.135E-51	3.471E+57
	[EIA=4.50]	0[b]	.	.	0	.	.	.	.
	[ICO=3.00]	0[b]	.	.	0	.	.	.	.

	[ICO=3.25]	12.326	10194.496	.000	1	.999	225469.851	.000	.[c]
	[ICO=3.50]	26.290	100.412	.069	1	.793	26165664873	8.847E-75	7.739E+96
							3.514		
	[ICO=3.75]	11.515	103.574	.012	1	.911	100186.066	6.889E-84	1.457E+93
	[ICO=4.00]	14.298	44.832	.102	1	.750	1620291.312	1.119E-32	2.346E+44
	[ICO=4.25]	3.706	59.866	.004	1	.951	40.707	4.485E-50	3.695E+52
	[ICO=4.50]	-3.569	58.195	.004	1	.951	.028	8.209E-52	9.668E+47
	[ICO=4.75]	0[b]	.	.	0	.	.	.	.
	[MON=3.00]	-7.482	476.505	.000	1	.987	.001	.000	.[c]
	[MON=3.25]	0[b]	.	.	0	.	.	.	.
	[MON=3.50]	2.614	252.532	.000	1	.992	13.648	1.512E-214	1.232E+216
	[MON=3.75]	16.928	171.985	.010	1	.922	22482984.09	9.072E-140	5.572E+153
							1		
	[MON=4.00]	-6.557	72.652	.008	1	.928	.001	2.047E-65	9.846E+58
	[MON=4.25]	-5.759	9.272	.386	1	.535	.003	4.045E-11	246195.158
	[MON=4.50]	-6.625	.000	.	1	.	.001	.001	.001
	[MON=4.75]	0[b]	.	.	0	.	.	.	.
	[RKM=3.50]	-24.323	10191.575	.000	1	.998	2.734E-11	.000	.[c]
	[RKM=3.75]	-32.242	10191.978	.000	1	.997	9.943E-15	.000	.[c]
	[RKM=4.00]	-23.546	10191.295	.000	1	.998	5.945E-11	.000	.[c]
	[RKM=4.25]	-7.096	10190.720	.000	1	.999	.001	.000	.[c]
	[RKM=4.50]	-16.931	10191.595	.000	1	.999	4.434E-8	.000	.[c]
	[RKM=4.75]	0[b]	.	.	0	.	.	.	.
4.42	Intercept	12.254	7783.280	.000	1	.999			
	[IIA=3.00]	-3.572	55.889	.004	1	.949	.028	7.520E-50	1.051E+46
	[IIA=3.50]	-2.578	32.249	.006	1	.936	.076	2.690E-29	214222169953

[IIA=3.75]	-4.913	31.681	.024	1	.877	.007	7.930E-30	681692810480
[IIA=4.00]	-.223	25.319	.000	1	.993	.800	2.245E-22	285143990543
[IIA=4.25]	-6.874	25.384	.073	1	.787	.001	2.556E-25	418899824638
[IIA=4.50]	0[b]	.	.	0	.	.	.	.
[EIA=3.00]	-.555	179.946	.000	1	.998	.574	3.880E-154	8.493E+152
[EIA=3.25]	-14.313	7783.917	.000	1	.999	6.083E-7	.000	.[c]
[EIA=3.50]	-4.407	29.714	.022	1	.882	.012	6.215E-28	238928425670
[EIA=3.75]	-4.418	120.273	.001	1	.971	.012	5.073E-105	2.869E+100
[EIA=4.00]	.295	24.963	.000	1	.991	1.343	7.578E-22	238106668522
[EIA=4.25]	.158	14.458	.000	1	.991	1.172	5.779E-13	237485392476
[EIA=4.50]	0[b]	.	.	0	.	.	.	.
[ICO=3.00]	0[b]	.	.	0	.	.	.	.
[ICO=3.25]	16.103	7785.903	.000	1	.998	9850359.793	.000	.[c]
[ICO=3.50]	12.212	78.995	.024	1	.877	201164.293	1.157E-62	3.498E+72
[ICO=3.75]	4.918	70.915	.005	1	.945	136.795	5.935E-59	3.153E+62
[ICO=4.00]	6.207	32.546	.036	1	.849	496.190	9.835E-26	250345088569
[ICO=4.25]	1.096	36.042	.001	1	.976	2.992	6.259E-31	143013722110
[ICO=4.50]	-6.128	33.461	.034	1	.855	.002	7.194E-32	661720586334
[ICO=4.75]	0[b]	.	.	0	.	.	.	.
[MON=3.00]	-9.412	361.397	.001	1	.979	8.172E-5	.000	3.421E+303
[MON=3.25]	0[b]	.	.	0	.	.	.	.
[MON=3.50]	-1.178	183.389	.000	1	.995	.308	2.439E-157	3.885E+155
[MON=3.75]	9.107	126.566	.005	1	.943	9019.845	1.668E-104	4.878E+111
[MON=4.00]	-4.564	28.878	.025	1	.874	.010	2.733E-27	397196242245
[MON=4.25]	2.543	5.314	.229	1	.632	12.723	.000	424395.313
[MON=4.50]	2.539	.000	.	1	.	12.671	12.671	12.671

	[MON=4.75]	0[b]	.	.	0	.	.	.	.
	[RKM=3.50]	-7.329	7783.180	.000	1	.999	.001	.000	.[c]
	[RKM=3.75]	-18.891	7783.724	.000	1	.998	6.248E-9	.000	.[c]
	[RKM=4.00]	-11.335	7783.172	.000	1	.999	1.195E-5	.000	.[c]
	[RKM=4.25]	-5.978	7783.165	.000	1	.999	.003	.000	.[c]
	[RKM=4.50]	-11.869	7783.189	.000	1	.999	7.007E-6	.000	.[c]
	[RKM=4.75]	0[b]	.	.	0	.	.	.	.
4.50	Intercept	18.193	7783.396	.000	1	.998			
	[IIA=3.00]	-1.759	71.763	.001	1	.980	.172	1.417E-62	2.091E+60
	[IIA=3.50]	-.157	31.366	.000	1	.996	.855	1.711E-27	426720826782
	[IIA=3.75]	-2.791	30.783	.008	1	.928	.061	3.848E-28	978210363074
	[IIA=4.00]	.083	25.821	.000	1	.997	1.086	1.140E-22	103485032736
	[IIA=4.25]	-8.566	33.455	.066	1	.798	.000	6.350E-33	571166877786
	[IIA=4.50]	0[b]	.	.	0	.	.	.	.
	[EIA=3.00]	5.809	168.198	.001	1	.972	333.214	2.251E-141	4.933E+145
	[EIA=3.25]	-7.140	7784.036	.000	1	.999	.001	.000	.[c]
	[EIA=3.50]	.281	37.116	.000	1	.994	1.324	3.378E-32	519221556430
	[EIA=3.75]	-3.923	125.374	.001	1	.975	.020	3.781E-109	1.035E+105
	[EIA=4.00]	2.995	25.486	.014	1	.906	19.995	4.047E-21	987754486593
	[EIA=4.25]	1.747	15.346	.013	1	.909	5.737	4.969E-13	66225040101975.516
	[EIA=4.50]	0[b]	.	.	0	.	.	.	.
	[ICO=3.00]	0[b]	.	.	0	.	.	.	.
	[ICO=3.25]	-8.467	7786.241	.000	1	.999	.000	.000	.[c]
	[ICO=3.50]	6.962	80.727	.007	1	.931	1056.139	2.034E-66	5.483E+71
	[ICO=3.75]	-.182	90.418	.000	1	.998	.833	9.056E-78	7.668E+76
	[ICO=4.00]	2.959	37.563	.006	1	.937	19.282	2.049E-31	181485180892

[ICO=4.25]	.688	42.077	.000	1	.987	1.990	3.042E-36	1.302E+36
[ICO=4.50]	-7.090	39.725	.032	1	.858	.001	1.279E-37	542839332756
[ICO=4.75]	0[b]	.	.	0	.	.	.	.
[MON=3.00]	-8.719	362.323	.001	1	.981	.000	.000	4.198E+304
[MON=3.25]	0[b]	.	.	0	.	.	.	.
[MON=3.50]	14.400	184.348	.006	1	.938	1794167.145	2.171E-151	1.483E+163
[MON=3.75]	6.797	131.327	.003	1	.959	894.910	1.465E-109	5.468E+114
[MON=4.00]	-4.297	29.170	.022	1	.883	.014	2.013E-27	919620619647
[MON=4.25]	2.364	6.388	.137	1	.711	10.628	3.880E-5	2911239.873
[MON=4.50]	-.744	.000	.	1	.	.475	.475	.475
[MON=4.75]	0[b]	.	.	0	.	.	.	.
[RKM=3.50]	-13.719	7783.301	.000	1	.999	1.101E-6	.000	.[c]
[RKM=3.75]	-20.301	7783.681	.000	1	.998	1.526E-9	.000	.[c]
[RKM=4.00]	-17.172	7783.204	.000	1	.998	3.487E-8	.000	.[c]
[RKM=4.25]	-9.825	7783.194	.000	1	.999	5.409E-5	.000	.[c]
[RKM=4.50]	-13.596	7783.218	.000	1	.999	1.246E-6	.000	.[c]
[RKM=4.75]	0[b]	.	.	0	.	.	.	.

a. The reference category is 4.58.

b. This parameter is set to zero because it is redundant.

c. Floating point overflow occurred while computing this statistic. Its value is therefore set to system missing.

APPENDIX B - QUESTIONNAIRE

AKENTEN APPIAH – MENKAH UNIVERSITY OF SKILLS TRAINING AND ENTREPRENEURIAL DEVELOPMENT (AAMUSTED)
SCHOOL OF BUSINESS
DEPARTMENT OF ACCOUNTING

QUESTIONNAIRE FOR INTERNAL AUDIT AND FIRM PERFORMANCE, EVIDENCE FROM MANUFACTURING FIRMS IN THE KUMASI METROPOLIS

This questionnaire is designed to gather information for a study titled "Internal Audit and Firm Performance; Evidence from Manufacturing Firms in the Kumasi Metropolis". This study is being conducted as partial fulfillment for an award of Master's Degree in ……in the Akenten Appiah-Menkah University of Skills Training and Entrepreneurial Development, Kumasi specifically the ……. in the School of Business. With utmost assurance, the information you will provide will be used for academic purposes only, and therefore your responses will be kept strictly confidential.

Please indicate your response to each question by ticking **(**√**)** the most suitable answer to each question as well as providing a personal response in the given space

Section A

BIODATA (Please tick in the box. Write where necessary)

1. Gender
Male [ ] Female [ ]

2. Age: 20 to 29 [ ] 30 to 39 [ ] 40 to 49 [ ]
50 to 59 [ ], above 60 [ ]

3. Level of Education
Diploma [ ] First Degree [ ]
Masters [ ] Others(Specify)……..

4. Position held …….

5. Professional certifications:
No related certification (_____) ICAG (_____)
ACCA (_____) Other (Specify : _____)

6. What is your level of understanding of internal audit and control systems?
Excellent [ ]
Average [ ]
Minimal [ ]

Section B

Internal Audit Function

Instruction: As honestly, as you can, indicate the extent to which the internal auditing is carried out in your company.

Tick the right number corresponding with each item key: 1 = very low, 2= low, 3= moderate, 4= high; 5= very high.

Independence of Internal Audit	**1**	**2**	**3**	**4**	**5**
7. Internal audit is free from intervention in performing its duties					
8. Internal auditors feel free to include any audit findings in their audit reports.					
9. Internal Auditor has unrestricted access to all operations, personnel, assets and transaction records					
10. Internal audit staff are not requested to perform non-audit functions					

Effectiveness of Internal Audit	**1**	**2**	**3**	**4**	**5**
11. Internal audit in your organization ensures that it adds value to the business					
12. Internal audit in your organization improves the department's performance.					
13. Internal audit within your organization improves organization performance.					
14. Internal audit evaluates and improves the effectiveness of risk management.					

Internal control	**1**	**2**	**3**	**4**	**5**
15. There is a proper internal control system in the company					
16. Internal audit identifies and profiles its stakeholders and audit clients, their needs, and expectations.					
17. Internal policies are clear to all employees in the company					
18. The internal system always reconciles all accounts for all units in the company					

Risk Management	**1**	**2**	**3**	**4**	**5**
19. Business identifies risks in terms of occurrence likelihood					
20. Business identifies risks in terms of sources of risk					
21. The company has a risk communication strategy					

22. Company analyses risks in terms of consequence					

Monitoring	**1**	**2**	**3**	**4**	**5**
23. The organizations have assessed the need for the use of internal capability for monitoring and review of internal controls.					
24. Internal audit has a comprehensive internal monitoring program.					
25. The internal audit function is coordinated with other risk monitoring functions like loan reviews, banking operational reviews, and regulatory compliance.					
26. Internal audit identifies and profiles its stakeholders and audit clients, their needs and expectations.					

SECTION C

Financial Performance and challenges of internal audit

As honestly as you can, indicate your company's extent or level of financial performance.

Tick the right number corresponding with each item key 1= low, 2= low, 3 =moderate, 4= high, 5 = very high

Budget Performance	**1**	**2**	**3**	**4**	**5**
27. The company budget covers all Sectors					
28. There is transparency in the sharing of excess revenues					
29. Diversion of funds occurs when the proposed amount of funds is not realized.					
30. Funds are spent as planned					

Profitability	**1**	**2**	**3**	**4**	**5**
31. Your Company determines the profitability of each product by identifying the components of revenue and expenses for each product					

32. The management establishes the minimum return required to meet the company's ROA and ROE objectives to help determine current pricing strategies for different products.					
33. Comparisons are made of the current profits with the profits made in the previous years to assess profitability trends					
34. Net profit margin, return on assets and return on equity have been adopted as appropriate to determine profitability in your company					

Liquidity	**1**	**2**	**3**	**4**	**5**
35. Your business cash flows are well balanced; cash inflows are greater than cash outflows					
36. You always sell your products in cash					
37. You make most of your expenditure by cash					
38. Your assets can easily be converted to cash management					

Challenges of internal audit	**1**	**2**	**3**	**4**	**5**
39. The expense of setting up and working an internal audit in an association is extravagant					
40. Internal audit is not reasonable for a small association because of the inclusion of significant expenses					
41. Internal audit staff often come up short on the necessary as they are not, in most cases, as qualified as chartered accountants					
42. Internal auditors are workers of the association and subsequently, the report given by them may not be valid and reasonable					