

UNIVERSITY OF CAPE COAST

INTERNAL AUDIT INDEPENDENCE AND EFFECTIVENESS AMONG
METROPOLITAN, MUNICIPAL AND DISTRICT ASSEMBLIES IN THE
CENTRAL REGION OF GHANA: THE MEDIATING ROLE OF AUDITOR
SATISFACTION



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SATISFACTION



Dissertation submitted to Department of Accounting, School of Business,
College of Humanities and Legal Studies, University of Cape Coast, in partial
fulfilment for the requirements for the Award of Master of Business
Administration degree in Accounting.

OCTOBER, 2024

DECLARATION

Candidate's Declaration

I hereby declare that this dissertation is the product of my own original research and no section of it has been presented to the University of Cape Coast or elsewhere.

Candidate's Signature Date

Name: De-Graft Arthur

Supervisor's Declaration

I hereby declare that the preparation and presentation of the dissertation was supervised in accordance with the guidelines on supervision of dissertation laid down by the University of Cape Coast.

Supervisor's Signature Date

Name: Dr. James Tuffour

ABSTRACT

This research investigated the connection between internal audit independence and internal audit effectiveness, considering the mediating role of auditor satisfaction. Primary data were gathered from 113 internal auditors representing all Metropolitan, Municipal, and District Assemblies in the Central Region of Ghana. The data collection method employed in this study was a questionnaire. The analysis of the research data was performed using the Partial Least Square estimation technique, guided by an explanatory research design. The principal discovery of the study indicated a positive and substantial correlation between internal audit independence and internal audit effectiveness. Also, the study found that the nexus between internal audit independence and internal audit effectiveness is partially mediated by auditor satisfaction. Hence, it was recommended that the Metropolitan, Municipal and District Chief Executives (MMDCEs) and Metropolitan, Municipal and District Coordinating Directors (MMDCDs) of Metropolitan, Municipal and District Assemblies (MMDAs) should be more responsive to employees by seeking for innovative ways of making their internal auditors independent in the performance of their audit work in order to enhance their internal audit effectiveness. Thus, internal auditors should have unrestricted access to all information, records, property, personnel, systems and processes, promotion and appointment. Again, the MMDCEs/ MMDCDs of MMDAs should pay attention to auditors' job satisfaction as the means through which internal audit independence converts into internal audit effectiveness.

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DEDICATION

To my family and friends

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LIST OF ACRONYMS

AVE	Average Variance Extracted
DV	Dependent Variable
IAE	Internal Audit Effectiveness
IAI	Internal Audit Independence
IAJS	Internal Auditor Job Satisfaction
IV	Independent Variables
MMDAs	Municipal and District Assemblies
MMDCDs	Metropolitan, Municipal and District Coordinating Directors
MMDCEs	Metropolitan, Municipal and District Chief Executives
MV	Mediating Variable
PLS-SEM	Partial Least Squares estimation technique
VIF	Variance Inflation Factor

CHAPTER ONE

INTRODUCTION

Internal audit functions contribute significantly in promoting good governance, ensuring accountability and optimizing resource management in the public sector. The degree of independence auditors has in carrying out their responsibilities is a critical component of internal audit effectiveness. Maintaining internal audit independence has become more crucial in recent years since it allows auditors to function without being influenced by outside forces or prejudices. Within Ghana's Metropolitan, Municipal and District Assemblies (MMDAs), concerns have emerged about the effectiveness of internal audit operations with challenges related to independence and auditor satisfaction potentially impacting performance. This study seeks to explore the link between internal audit independence and effectiveness in MMDAs in the Central Region of Ghana.

Background to the Study

Internal audit is essential for strengthening governance, promoting accountability, and ensuring the effective utilization of resources, particularly in the public sector. Internal audit functions' independence has a major impact on how effective they are (Yeboah, 2020). This independence allows auditors to perform their duties objectively and without external influence, ensuring the credibility of their assessments and reports on the financial, operational and compliance activities of an organisation (Hasan, Kassim & Hamid, 2020; Abdelrahim & Al-Malkawi, 2022).

Autonomy, therefore, significantly enhances the overall efficiency of the internal audit function (Turetken, Jethefer, & Ozkan, 2020). Kaawaase and

Nkundabanyanga (2017) emphasize the importance of granting internal auditors sufficient independence to carry out their duties without interference from management or government bodies. This autonomy enables auditors to perform more effectively and contributes to improving internal audit practices (Kaawaase, Bananuka, Kwizina & Nabaweesi, 2020). The level of independence afforded to internal auditors also impacts their ability to deliver high-quality audits (Abdullah & Mustafa, 2020; Ahmeti & Aliu, 2022).

Independence is widely regarded as a critical factor in determining the effectiveness of internal audit practices within institutions (Kaawaase et al., 2016). Scholars like Alzeban and Gwilliam (2014) and Anh et al. (2020) have emphasized its role in improving audit efficiency. For public institutions such as MMDAs, prioritizing internal audit independence is essential to ensure effective auditing that identifies weaknesses, detects fraudulent activities, and prevents revenue leakages (Kaawaase et al., 2020). Effective internal audits are vital to safeguarding organisational assets, ensuring compliance, promoting efficiency and enhancing overall governance (Abdelrahim & Al-Malkawi, 2022). This effectiveness not only assures stakeholders but also helps organisations adapt to changing risks and circumstances (Abbott et al., 2022).

Agency theory posits that internal audits serve as mechanisms to address agency problems by aligning the interests of auditors with those of the institution (Jensen & Meckling, 1976). Scholars have argued that auditor satisfaction, influenced by independence is a key factor in audit effectiveness (Dashtbayaz et al., 2022; Khavis et al., 2022; Pham et al., 2022). Therefore, institutions like MMDAs should prioritize both internal audit independence and

auditor satisfaction to improve the effectiveness of their internal audit functions (Al Shbail et al., 2022; Dashtbayaz et al., 2022).

Empirical evidence supports the link between internal audit independence and improved job satisfaction, which in turn leads to enhanced audit effectiveness (Asiedu & Deffor, 2017). Behrend and Eulerich (2019) also assert that institutions with effective internal audit independence are more likely to achieve higher levels of auditor satisfaction and, subsequently, better audit outcomes. Conversely, institutions with weak commitments to audit independence may fail to prioritize auditor satisfaction, which can hinder audit effectiveness. For MMDAs in the Central Region of Ghana, where challenges with internal audit effectiveness persist, it is crucial to enhance internal audit independence to ensure that audit functions meet their objectives and strengthen governance and accountability.

Statement of the Problem

Generally, internal audit functions operate with full independence by enabling auditors to objectively assess and improve the financial, operational and compliance activities within an organization. This independence is critical for ensuring governance, accountability and the efficient use of resources, particularly in public institutions like MMDAs (Kaawaase et al., 2016; Yeboah, 2020). When internal audit independence is prioritized, auditors are better positioned to perform their roles effectively, leading to improved internal audit outcomes (Kaawaase et al., 2020; Abdelrahim & Al-Malkawi, 2022).

However, in practice, the independence of internal auditors within MMDAs is often compromised either due to managerial or political interference, limited resources or institutional constraints (Jiang, Messier &

Wood, 2020; Brink, Eller & Green, 2022). This lack of independence undermines the effectiveness of internal audits, leading to poor governance, inefficiencies and an increased risk of financial irregularities (Central Regional Coordinating Council Fourth Quarter Internal Audit Report, 2020). This current situation hinders the ability of MMDAs to meet their governance and accountability objectives, resulting in persistent challenges with internal audit effectiveness (Turetken, Jethefer & Ozkan, 2020; Wan-Hussin, Fitri & Salim, 2021).

The consequences of this limited internal audit independence are far-reaching. Without the necessary autonomy, internal auditors cannot fully uncover organizational inefficiencies, fraud or other financial misconduct, which ultimately diminishes the quality and impact of the audit process (Ratmono & Darsono, 2022). Furthermore, the inability of auditors to act independently reduces their job satisfaction which may further weaken the internal audit function's overall effectiveness (Al Shbail et al., 2022; Dashtbayaz et al., 2022).

Although several studies have explored the nexus between internal audit independence and internal audit effectiveness (e.g., Ratmono & Darsono, 2022; Turetken et al., 2020; Wan-Hussin et al., 2021), findings in the literature remain inconclusive. Some research points to a significant positive relationship between independence and effectiveness while others report mixed or unclear results. Scholars like Al Shbail et al. (2022) argue that this inconsistency may stem from the lack of attention given to intermediary factors such as auditor satisfaction that could mediate the relationship between internal audit independence and effectiveness.

This gap presents an opportunity to examine the internal audit independence and internal audit effectiveness nexus within MMDAs with particular emphasis on the mediating role of auditor satisfaction. Addressing this gap is important given the challenges related to internal audit effectiveness faced by MMDAs in the Central Region. This study aims to investigate how improving internal audit independence can enhance internal audit effectiveness, with auditor satisfaction as a potential mediating factor, to provide a clearer understanding of the dynamics involved in this relationship.

Purpose of the Study

The primary goal of this study was to examine the connection between internal audit independence and the effectiveness of internal audits of all MMDAs in the Central Region of Ghana by testing the mediating role of auditor satisfaction.

Research Objective

Specifically, the study sought to:

1. examine the effects of internal audit independence on internal audit effectiveness.
2. assess the influence of internal audit independence on auditor satisfaction.
3. analyze the impact of auditor satisfaction on internal audit effectiveness
4. assess the mediating role auditor satisfaction on the link between internal audit independence and internal audit effectiveness.

Research Hypotheses

H₁: There is a significant positive nexus between internal audit independence and internal audit effectiveness.

H₂: There is a significant positive relationship between internal audit independence and auditor satisfaction.

H₃: Auditor satisfaction is positively linked to internal audit effectiveness.

H₄: Auditor satisfaction mediates the nexus between internal audit independence and internal audit effectiveness.

Significance of the Study

The findings of this investigation will deepen the understanding of the connection between internal audit independence and internal audit effectiveness, particularly within public sector institutions like MMDAs. This research will provide empirical evidence on the mediating role of auditor satisfaction by offering a valuable foundation for future studies and practical insights for improving audit functions in similar contexts. Furthermore, the findings of this research will offer practical insights for MMDAs to empower their internal auditors with independence, thereby bolstering their effectiveness in carrying out audit tasks. Also, introducing a mediating variable into the study will provide a crucial tool for MMDAs management and decision-makers, enabling them to align their practices with auditor satisfaction, ultimately fostering audit effectiveness.

Delimitation of the study

The research is limited to MMDAs in the Central Region and it does not involve other types of governmental or non-governmental organisations. The findings and recommendations of this study may not be applicable to different types of organisations with distinct operational characteristics and governance structures. Besides, this study primarily employed a quantitative research design

including surveys and statistical analysis. While this approach provides valuable insights into the relationships under investigation, it does not capture the full depth of qualitative aspects and nuanced perspectives that qualitative methods could reveal.

Limitation of the Study

The study relied on self-reported data from internal auditors which introduced the potential for response bias where participants might provide socially desirable or biased answers that do not accurately reflect their experiences or opinions. To address this concern, a statistical tool such as PLS was employed to test for bias in the responses, ensuring that the findings are robust and reliable. Additionally, the findings of this study are specific to the Central Region of Ghana which may limit their applicability to other regions. To enhance the generalizability of the results, the study design included a diverse sample of internal auditors from various MMDAs within the region, allowing for a broader understanding of internal audit practices in similar contexts.

Organisation of the Study

The study is structured across five chapters. In Chapter One, attention was given to the study's background, problem statement, objectives, research questions, significance, and the study's organisation. Chapter Two similarly concentrated on a comprehensive review of relevant literature on the variables. Moving on to Chapter Three, the study methodologies employed were explained. Chapter Four encompassed the presentation and discussion of the results. Finally, Chapter Five encapsulated the findings, conclusions, and recommendations of the study.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter offers an overview of key study concepts, delving into the theory underpinning the study. Furthermore, the chapter encompasses an empirical analysis of internal audit independence, internal audit effectiveness, and the mediating role of auditor satisfaction in their connection and the development of a conceptual framework.

Theoretical Review

The agency theory underpins this section.

Agency theory

The agency theory is a theoretical framework for understanding and addressing the conflicts and challenges that arise when one party (the agent) acts on behalf of another party (the principal) and how to structure the relationship to ensure the agent acts in the best interests of the principal (Jensen & Meckling, 1976). According to the agency theory, the principal, (thus those who assign authority, like the government), and the agent, (thus, those who act on behalf of the principal, like the management of MMDAs, internal auditors, and employees) have fundamentally different interests (Bendickson, et al., 2016; Panda & Leepsa, 2017).

The theory suggests that agents may not always act in the best interests of the principal and may engage in opportunistic behaviour (Eisenhardt, 1989; Shogren, Wehmeyer & Palmer, 2017). The theory suggests that to mitigate this divergence, mechanisms such as internal audit must be established. According to the agency theory, internal audit functions are established to serve as control

mechanisms to monitor and mitigate agency problems (Shogren, Wehmeyer & Palmer, 2017). The agency theory argues that internal audit effectiveness is a measure of how well the agency (internal audit) aligns with the interests and objectives of the principal (MMDAs) (Mitnick, 2015).

When internal audit is effective, it means that it is successfully fulfilling its role in ensuring accountability, compliance and efficient resource utilization, which aligns with the principal's interests (Daniel et al., 2021; Hussaina & Abdulahad, 2022). The agency theory stressed that the satisfaction of auditors is important because it can influence their commitment to the agency's mission (Lan & Heracleous, 2010; Hapsari & Ningrum, 2022). The theory posits that satisfied auditors are more likely to act in the best interests of the organisation.

Utilising the agency theory as a theoretical framework, the study can provide a solid foundation for understanding how internal audit independence and effectiveness with the mediating role of auditor satisfaction are interconnected within the context of MMDAs in the Central Region of Ghana. The study helps explain the dynamics of the principal-agent relationship in this setting and how these factors contribute to good governance and accountability. Also, the study can use the agency theory to explain that independence is necessary to ensure that internal auditors are not unduly influenced by management or other stakeholders allowing them to act in the best interests of the MMDAs and their stakeholders.

Conceptual Review

Internal audit independence

According to Kaawaase and Nkundabanyanga (2017), internal audit independence involves providing auditors with the autonomy to conduct their

internal audit activities and fulfil their responsibilities without any external influences that could potentially compromise their impartiality. Hasan, Kassim and Hamid (2020) define the concept as the impartial mind-set that enables internal auditors to effectively execute their internal audit engagements. Internal audit independence is also recognised as an important conduit for rendering impartial and unbiased assessment that are essential to proper conduct of internal audit (Dzigbede, 2020; Abdelrahim & Al-Malkawi, 2022). Turetken et al. (2020) noted that internal audit independence stands out as a pivotal factor contributing to internal audit effectiveness.

Kaawaase and Nkundabanyanga (2017) expressed the view that it is crucial for internal auditors to operate independently in the execution of their audit duties, free from interference by organisational management. It has been established that internal auditors that are allowed to work without interference are better positioned to improve their internal audit effectively (Kaawaase, Bananuka, Kwizina & Nabaweesi, 2020; Maama & Marimuthu, 2021; Owusu-Akomeah, Asare, Afriyie & Kumah, 2022). This is because the sense of independence given to auditors tends to influence their attitudes towards their internal audit process.

As a result, internal audit independence has been advocated by of firms as an important tool for improving internal audit effectiveness (Mansor et al., 2013; Daniel, Hussein, Karim & Nicholas, 2021). Onumah and Krah (2012) and Wahhab and Al-Shammari (2021) articulated the perspective that the significance of internal audit independence is intricately linked to organizational-oriented measures with a strong emphasis on the crucial role it plays in ensuring internal audit effectiveness. Bananuka et al. (2019) argued that

the degree to which internal audit attains independence can directly impact its effectiveness. In a similar vein, Ratmono and Darsono (2022) conducted a study and discovered that internal audit effectiveness is notably influenced by the manner in which internal auditors are granted independence in their audit work.

Auditor job satisfaction

Ahakwa Yang, Tackie and Atingabili (2021) have described auditor satisfaction as the auditor's overall evaluation of the experience of performing a particular audit function over time. Auditor satisfaction determines how work conditions meet auditors' needs and expectations (Adamu, Gyamfi & Billa, 2021). Gul, Masood, Sadiq and Saeed (2022) assessed customer auditor as a mechanism for achieving behavioural results such as internal audit effectiveness. In a dynamic corporate environment where institutions compete for quality internal audit, auditor satisfaction is seen as a key differentiator strategy. This is because satisfied auditors are significant to internal audit effectiveness (Hackman et al., 2021).

Haligah (2019) postulates that institutions regard auditor satisfaction as their principal concern and try to achieve it through the development of auditor orientation strategies and the ethics of continuous improvement. Mickson, Anlesinya and Malcalm (2020) agreed that measuring auditor satisfaction should be the focus of institutions because it determines their health and efficiency. Guo, Huang, Zhang and Zhou (2016) view auditor satisfaction as an important indicator of organisational productivity. Such as, Hapsari and Ningrum (2022) perceived auditor satisfaction as a measure for achieving performance excellence within organisations, motivating them to recognise the potential advantages associated with contented auditors.

Furthermore, research has solidified the notion that auditor satisfaction serves as a catalyst for enhancing work practices and processes employed within a company (Behrend & Eulerich, 2019). Gadi, Djou and Lukiastuti (2021) maintained that auditors will eventually improve their work once they are happy with the audit responsibilities that a specific institution offers them. Bartlett et al. (2017) regard auditor satisfaction as an important determinant of internal audit effectiveness. It has been proposed that internal auditors are more likely to adopt positive attitudes that will ultimately result in audit effectiveness if they are happy with the internal audit functions provided by their organization (Blanz, 2017).

Internal audit effectiveness

Internal audit effectiveness is explained as the extent to which an organization's internal audit function successfully achieves its objectives and fulfils its role in the organisation (Ratmono & Darsono, 2022; Al Shbail et al., 2022). Ta and Doan (2022) and Abdelrahim and Al-Malkawi (2022) are of the view that internal audit is a systematic and independent evaluation of an organization's financial, operational, compliance and strategic processes to ensure they are functioning effectively and efficiently. According to Alqudah, Amran and Hassan (2019), internal audit effectiveness is key for safeguarding an organisation's assets, promoting efficiency and enhancing the overall governance and control environment. Asiedu and Deffor (2017) pointed out that institutions such as MMDAs are operating in an extremely volatile corporate environment and have now realised that their internal audit effectiveness is essential. Besides, Baatwah, Al-Ebel and Amrah (2019) suggested that MMDAs

can employ to enhance their financial performance, avoid theft and leakages of resources through their internal audit effectiveness.

A number of studies maintained that paying attention to internal audit effectiveness is vital for MMDAs' performance (Erasmus & Coetzee, 2018; Chang, Chen, Cheng & Chi, 2019; Daniel et al., 2021; Hussaina & Abdulahad, 2022). Internal audit effectiveness is considered as an important way for improving MMDAs financial performance (Gaosong & Leping, 2021). Previous studies in deliberating on the inducing elements of internal audit effectiveness, confirmed internal audit independence in this regard (Turetken, Jethefer & Ozkan, 2020; Jiang, Messier & Wood, 2020; Hazaea et al., 2021; Wan-Hussin, Fitri & Salim, 2021).

Other studies (Brink, Eller & Green, 2022; Joshi & Karyawati, Purba, 2022; Ratmono & Darsono, 2022; Ta & Doan, 2022) documented the nexus in regards to internal audit independence and internal audit effectiveness is significant and positive. Asiedu and Deffor (2017) claimed that by making internal audit independent, MMDAs will generally improve their internal audit effectiveness. Lenz, Sarens and Hoos (2017), Li et al. (2018) and Behrend and Eulerich (2019) tend to support the notion that when institutions put in place effective internal audit independence, they are more likely to improve their internal audit effectiveness.

Empirical Review

Internal audit independence and internal audit effectiveness

According to agency theory, internal audit functions are established as control mechanisms to monitor and mitigate agency problems. The theory posits that internal audit effectiveness is a measure of how well the internal audit

agency aligns with the interests and objectives of the principal, specifically the MMDAs (Jensen & Meckling, 1976). From this perspective, it can be stated that the internal audit independence of institutions like MMDAs is geared toward improving their internal audit effectiveness (Mertzanis, Balntas & Pantazopoulos, 2019). Internal audit independence is recognized as essential for rendering impartial and unbiased assessments which are crucial for the proper conduct of internal audits (Abdelrahim & Al-Malkawi, 2022).

Auditors often derive satisfaction from engaging with complex financial and operational issues that demand critical thinking and problem-solving skills (Brink, Eller & Green, 2022). Moreover, opportunities for professional development and career advancement within the audit field contribute to job satisfaction. A supportive and collaborative work culture, good relationships with colleagues and a strong ethical foundation within the organization also enhance auditors' job satisfaction. Furthermore, having the autonomy to plan and execute audits independently fosters a sense of ownership and fulfilment in their work (Joshi & Karyawati, Purba, 2022; Ratmono & Darsono, 2022; Ta & Doan, 2022).

Turetken, Jethefer, and Ozkan (2020) highlighted that internal audit independence is a strategic variable for internal audit effectiveness. Their study employed a quantitative methodology, utilizing surveys to gather data from internal auditors regarding their experiences with independence and effectiveness. They established that internal auditors who operate without interference from organizational managers are better positioned to enhance their audit practices (Bananuka et al., 2018; Ashfaq & Rui, 2019; Kaawaase, Bananuka, Kwizina & Nabaweesi, 2020). The sense of independence afforded

to internal auditors significantly influences their attitudes towards audit effectiveness (Abdullah & Mustafa, 2020; Ahmeti & Aliu, 2022).

Kaawaase et al. (2016) regarded internal audit independence as a crucial determinant of the internal audit effectiveness of institutions. Their mixed-methods approach included interviews and surveys, allowing for a nuanced understanding of how internal audit independence enhances effectiveness (Roussy & Perron, 2018; Alqudah, Amran & Hassan, 2019; Anh, Thi, Quang & Thi, 2020; Antoniuk et al., 2021). Narayanaswamy, Raghunandan, and Rama (2019) found a strong association between internal audit independence and increased internal audit effectiveness, attributing this relationship to the freedom provided to auditors, which protects them from circumstances that could compromise their ability to fulfil their responsibilities.

Yeboah (2020) emphasized that a favorable nexus between internal audit independence and internal audit effectiveness can be established when such initiatives are beneficial to auditors. Additionally, Alzeban (2019) documented that internal audit independence promotes internal audit effectiveness. Studies conducted by Alzoubi (2019) and Abdullah and Mustafa (2020) investigated the impact of internal audit independence on effectiveness, revealing that auditors' perceptions of their organization's independence significantly influence their internal audit effectiveness. Consequently, the following hypothesis is postulated:

H₁: There is a significant positive connection between internal audit independence and internal audit effectiveness.

Internal Audit Independence and Auditor Satisfaction

Ahakwa et al. (2021) defined auditor satisfaction as the auditor's overall evaluation of their experience performing specific audit functions over time. This satisfaction reflects how employment conditions meet auditors' expectations (Adamu, Gyamfi & Billa, 2021). Gul, Masood, Sadiq and Saeed (2022) view auditor satisfaction as a mechanism for achieving behavioural results including internal audit effectiveness. In a competitive corporate environment where institutions strive for high-quality internal audits, auditor satisfaction emerges as a key differentiator strategy, given that satisfied auditors are crucial for enhancing internal audit effectiveness (Hackman et al., 2021).

Haligah (2019) suggested that institutions should prioritize auditor satisfaction and strive to achieve it through the development of auditor-oriented strategies and a commitment to continuous improvement. Mickson et al. (2020) established that measuring auditor satisfaction is essential for institutions, as it directly influences their performance. Furthermore, Guo, Huang, Zhang and Zhou (2016) identified auditor satisfaction as an important indicator of organizational productivity. Hapsari and Ningrum (2022) highlighted auditor satisfaction as a key metric for achieving high performance across various organizations, urging them to recognize the potential benefits associated with contented auditors.

Auditor satisfaction serves as a catalyst for enhancing work practices and processes within organizations (Behrend & Eulerich, 2019; Wronka, 2019). It has been proposed that an organization's sustained success hinges on the satisfaction levels of its auditors (Albawwat et al., 2021; Sajari, Haron, Ganesan & Khalid, 2022; Wronka, 2019), as effective internal audits depend on a

foundation of satisfied auditors (Arena & Azzone, 2009; Syaifuddin, Dali & Masud, 2019). According to agency theory (Jensen & Meckling, 1976), auditor satisfaction is vital as it influences their commitment to the agency's mission with satisfied auditors more likely to act in the best interests of the organization.

Blanz (2017) argued that audit satisfaction is not solely derived from independence; instead, it is also linked to auditors' perceptions of their work environment. Consequently, MMDAs that prioritize employee rights and create a positive physical environment are better positioned to enhance auditor satisfaction (Bartlett, Kremin, Saunders & Wood, 2017; Naiyananont & Smuthranond, 2017). Grounded in expectancy disconfirmation theory (Oliver, 1997), it is posited that internal audit independence can help MMDAs confirm or exceed auditors' prior expectations, potentially leading to greater satisfaction (Luthan, Ali & Hairaty, 2019; Behrend & Eulerich, 2019; Gadi & Lukiastuti, 2021).

The stakeholder theory (Freeman, 1964) posits that MMDAs can satisfy their auditors by addressing their multidimensional needs (Guo et al., 2016; Lee, 2017), including the desire to be treated as social beings rather than as mere objects of exploitation. Hapsari and Ningrum (2022) suggested that internal audit independence helps organizations better understand their auditors by enabling them to leverage this knowledge to enhance auditor satisfaction. Moreover, initiatives promoting internal audit independence can improve the reputation of MMDAs, encouraging auditors to align themselves with these organizations.

Filfilan (2022) provided a summary of analyses demonstrating the effects of internal audit independence on auditor satisfaction. It was argued that

the value perceived through internal audit independence positively influences auditor satisfaction. Furthermore, firms that formulate and implement internal audit independence policies with consideration for auditors' interests tend to foster greater satisfaction among their audit staff. Hence, it is hypothesized that: H₂: There is a significant positive nexus between internal audit independence and auditor satisfaction.

Auditor satisfaction and internal audit effectiveness

Expectancy disconfirmation theory (Oliver, 1997) attributes an institution's ability to satisfy its employees to its ability to confirm or exceeds their prior expectations. Thus, auditors' satisfaction is in part determined by the level of disconfirmation of auditor's expectations (Oliver, 1997). Chiarini et al. (2021) hypothesised that once auditors become satisfied with the audit responsibilities offered them by a particular institution, they will eventually improve on their work. Cohen and Sayag (2010) regard auditor satisfaction as an important determinant of internal audit effectiveness.

It has been advanced that if internal auditors are satisfied with internal audit functions offered by their organisation, they are more likely to develop positive attitudes which will result into their audit effectiveness (Eulerich et al., 2019; Khavis, Krishnan & Tipton, 2022). Some scholars in the internal audit domain have also recognised that satisfied internal auditors tend to offer quality audit on continuous basis (Ma'Ayan & Carmeli, 2016). Some prior investigations (Petridis, Drogalas & Zografidou, 2021; Pooe, Barac, Plant & Steyn, 2022) documented that satisfied internal auditors untimely improve their internal audit effectiveness.

Although there are both theoretical and empirical evidence that seek to link increasing auditor satisfaction to improving internal audit effectiveness (Erasmus & Coetzee, 2018; Hazaea et al., 2020), some researchers (Harp & Barnes, 2018; Hazaea et al., 2021) have contended that in a given organisation, various auditors might have distinct experiences that can influence their expectations and requirements (Lenz, Sarens & Jeppesen, 2018; Oradi, Asiaei & Rezaee, 2020). Lisic, Myers, Seidel and Zhou (2019) and Narayanaswamy, Raghunandan and Rama (2019) affirm the position that auditor satisfaction alone cannot determine internal audit effectiveness especially when there are exposed to better alternative from other organisation.

Hence, it is possible for auditors who were satisfied at their previous organisation not to enhance their internal audit. Accordingly, internal audit effectiveness is not guaranteed by auditor satisfaction alone. Given that auditor satisfaction in Ghana is generally not encouraging, the researcher anticipates that it could be an important variable in determining the level of internal audit effectiveness because it can serve as a source of quality internal audit. Hence, it is hypothesized that:

H₃: There is a significant positive relationship between auditor satisfaction and internal audit effectiveness.

Auditor satisfaction mediates the nexus between internal audit independence and internal audit effectiveness

Gul, Masood, Sadiq and Saeed (2022) suggest that organisations, including MMDAs, enhance the efficiency of their internal auditors by meeting their needs and fulfilling their expectations. This implies that as MMDAs promote the independence of internal auditors, they are more likely to enhance

the auditors' satisfaction in carrying out their internal audit responsibilities (Adamu, Gyamfi & Billa, 2021), which could later lead to their audit effectiveness (Ta, & Doan, 2022). Thus, auditor satisfaction mediates the connection between internal audit independence and internal audit effectiveness (Al Shbail, Alshurafat, Ananzeh & Bani-Khalid, 2022). Amy, Hong and Tiong (2022) confirm that internal audit independence positively affects auditor satisfaction which later results in internal audit effectiveness.

This means that the implementation of internal audit independence initiatives improves auditors attitude toward the internal audit provided (Luthan, Ali & Hairaty, 2019; Behrend & Eulerich, 2019; Gadi, Djou & Lukiastuti, 2021) which leads to internal audit effectiveness (Temesgen & Estifanos, 2018; Trotman & Duncan, 2018; Ta & Doan, 2022). Dashtbayaz, Salehi and Mozan (2022) have emphasized that institutions build solid relationships with internal auditors through auditor satisfaction and thereby increase internal audit effectiveness.

In the MMDAs perspective, internal audit independence perceptions are found to have indirect association with internal audit effectiveness through auditor satisfaction (Turetken, Jethefer & Ozkan, 2020; Yeboah, 2020; Wan-Hussein, Fitri & Salim, 2021). Based on the arguments that internal audit independence enhances internal audit effectiveness (see Hypothesis 1) and auditor satisfaction leads to internal audit effectiveness (see Hypothesis 3), the researcher expect that auditor satisfaction will mediate the link between internal audit independence and internal audit effectiveness. Therefore, it is hypothesized that:

H₄: Auditor satisfaction mediates the relationship between internal audit independence and internal audit effectiveness.

Conceptual Framework

The framework connects internal audit independence and internal audit effectiveness by highlighting the mediating role of auditor satisfaction.

Figure 1: Linking internal audit independence and internal audit effectiveness through the mediating role of auditor satisfaction.

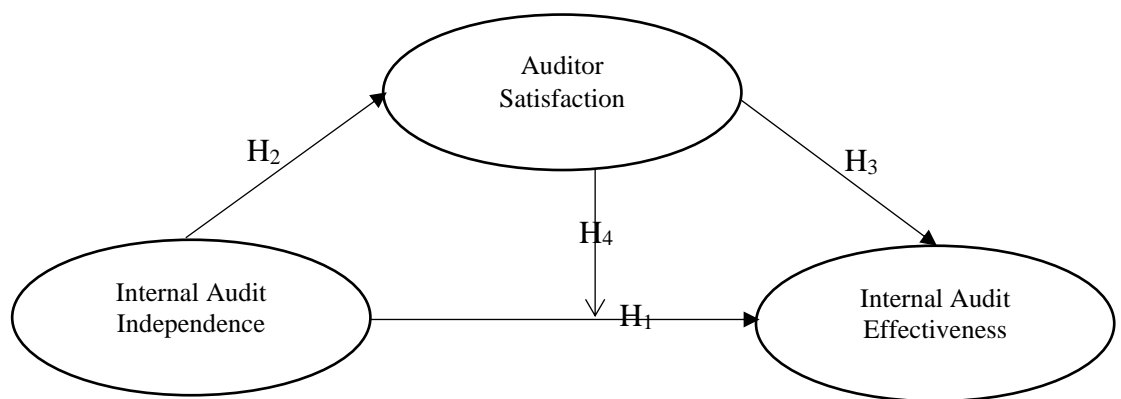


Figure 1: Conceptual Framework linking internal audit independence and internal audit effectiveness through the mediating role of auditor satisfaction

Source: Author's Construct (2023).

The framework posits that internal audit independence helps in determining internal audit effectiveness with auditor satisfaction serving as a mediating variable in this relationship. It suggests that institutions, mainly the MMDAs that prioritize and uphold the principles of internal audit independence are likely to explore innovative strategies to enhance auditor satisfaction. This proactive approach is critical, as satisfied auditors are better positioned to perform their roles effectively, thus directly contributing to the overall effectiveness of the internal audit function. Moreover, the framework argues that MMDAs demonstrating a strong commitment to internal audit

independence tend to prioritize auditor satisfaction as a key element of their operational strategy. These institutions recognize that fostering a supportive environment for auditors can lead to improved performance, increased trust and enhanced audit outcomes.

Conversely, MMDAs that exhibit a lower commitment to auditor satisfaction may inadvertently undermine their internal audit effectiveness. In such cases, a lack of concern for the auditors' working conditions, needs and job satisfaction can lead to disengagement, lower performance and ultimately, a decline in the quality and impact of the internal audit function. Thus, the interaction between internal audit independence, auditor satisfaction and internal audit effectiveness is vital for MMDAs aiming to achieve robust governance and accountability.

Chapter Summary

This chapter provided a comprehensive examination of the relationship between internal audit independence and internal audit effectiveness, supported by an empirical review of relevant literature. The development of a conceptual framework indicates how these two constructs interact, particularly emphasizing the role of auditor satisfaction as a mediating variable. One significant gap identified in the literature is the limited number of empirical studies specifically focusing on MMDAs in Ghana. While the link between internal audit independence and effectiveness is well-discussed theoretically, most existing research centers on developed countries, leaving a gap in context-specific findings that are relevant to the Ghanaian public sector.

Moreover, the influence of contextual factors such as organizational culture, governance structures and external pressures on the relationship

between internal audit independence and effectiveness remains underexplored. Understanding these factors could provide a more nuanced view of how these variables interact in different environments. The neglect of stakeholder perspectives is another notable gap. Much of the existing research does not adequately incorporate the views of key stakeholders such as management, auditors and regulatory bodies. Including these perspectives could enrich the understanding of how internal audit independence is perceived and its impact on effectiveness.

CHAPTER THREE

RESEARCH METHODS

Introduction

The primary goal of this study was to examine the connection between internal audit independence and the effectiveness of internal audits of all MMDAs in the Central Region of Ghana by testing the mediating role of auditor satisfaction. This chapter offers crucial insights into the research methods, encompassing aspects such as research philosophy, design, approach, sampling methods, sample size, research instruments, analytical techniques, the assessment of validity and reliability, and ethical considerations.

Research Philosophy

Based on the position of Rehman and Alharthi (2016), Davies and Fisher (2018), and Park, Konge and Artino (2020), the research paradigm employed by this study was the positivism approach. Positivism approach enable researchers to understand a particular topic within an explanatory casual framework (Rehman & Alharthi, 2016; Davies & Fisher, 2018; Park, Konge & Artino, 2020). The positivism paradigm makes it possible for researchers to explain observable social observation as well as making reasonable conclusions and generalizations (Taylor & Medina 2011). This research paradigm includes collecting research data and analyzing the collected data with statistical test of significance. This research paradigm is also suitable for this study since primary data was collected to determine the connection in regards to internal audit independence and internal audit effectiveness of all the MMDAs in the Central Region.

Research Approach

Research approach involves quantitative, qualitative and mixed methods (Neuman, 2014). Bloomfield and Fisher (2019) and Lewis (2015) opine that using quantitative approach helps researchers to critically evaluate the association between study variables using statistical test of significance. Bengtsson (2016) contended that utilizing a qualitative research approach allows researchers to elucidate certain aspects of social phenomena through observation. The mixed method combines elements of both quantitative and qualitative research approaches (Bengtsson, 2016; Sekaran & Bougie, 2016; Tenny, Brannan & Sharts-Hopko, 2017; Arifin, 2018).

To examine the connection between internal audit independence and the effectiveness of internal audits of all MMDAs in the Central Region of Ghana through the mediating role of auditor satisfaction, quantitative research approach was employed. This is because the approach is suitable for studies of this kind that intend to use numerical data (Lewis, 2015; Creswell 2014). It also enables researchers to achieve broader understanding of a study (Bloomfield & Fisher, 2019). Beside its appropriateness for this present research, some scholars (Stewart & Subramaniam, 2010; Endaya & Hanefah, 2013; Deribe & Regasa, 2014) used quantitative method to test internal audit independence and internal audit effectiveness association in previous studies.

Research Design

Sekaran and Bougie (2016) provided an explanation of research design as a strategic blueprint that outlines the methodology for collecting, measuring and analysing data in a study. Sekaran and Bougie (2016) further postulated that research designs are usually grouped into exploratory, descriptive and causal

designs. To assess the connection between internal audit independence and the effectiveness of internal audits of all MMDAs in the Central Region of Ghana by testing the mediating role of auditor satisfaction, explanatory design was used because it is deemed to be suitable for discovering and reporting the various connections among different aspects of a phenomenon under study (Yin, 2003; Barifaijo, Basheka & Oonyu, 2010; Sekaran & Bougie, 2016; Decoteau, 2017). The explanatory design is also found appropriate as it aids researchers to carry out a complete analysis into research aims (Saunders & Lewis, 2016; Cantwell, 2020). Abbott, Parker, Peters and Rama (2007) also employed explanatory design in their study on internal audit independence and internal audit effectiveness nexus.

Study Area

The accessible respondents for this study were internal auditors of all the MMDAs in the Central Region. The MMDAs in the Central Region, like others across Ghana, are responsible for local governance, public service delivery and the implementation of government policies at the grassroots level. They play a crucial role in the development and administration of their respective areas, aiming to improve the lives of the residents and promote sustainable growth. The Central Region with its historical sites, cultural diversity and economic activities, offers unique opportunities and challenges for these assemblies as they work towards local development and progress.



Figure 2: Map of Central Region, Ghana

Source: <https://lgs.gov.gh/central>

Central Region was chosen as the study area based on two major reasons. First, according to Schensul, Schensul, and LeCompte (1999), a researcher should be trusted by the population under study and have a personal relationship built (in other words, have a rapport built), be comfortable with the people in the field and, as well, know the activities of the study population, their interests, cultural dynamics (local customs and norms), and among others. Secondly, the region is part of Ghana's major cosmopolitan and heterogeneous regions, illustrating diverse religious, cultural, and demographic characteristics (GSS, 2021).

Population

Ngechu (2004) asserts that population include a set of elements, events and people under a study. However, other researchers define population as the collection of cases that meet a designed set of criteria (Graneheim & Lundman,

2004; Banerjee & Chaudhury, 2010). The population for the study was all internal auditors in MMDAs in the Central Region. Following the MMDAs database, the total number of internal auditors in MMDAs in the Central Region is 160.

Sampling Procedures

According to Ali, Rasheed, Siddiqui, Naseer, Wasim and Akhtar (2015), a sample size for research purposes should be at least 100 or more respondents. An argument that was supported by Faber and Fonseca (2014), Boddy (2016) and Taherdoost (2017) that sample size for studies should be reasonable. With reference to Krejcie and Morgan's (1970) sample size determination table, 113 internal auditors were randomly selected from the MMDAs in the Central Region, out of a total of 160 internal auditors, to achieve a 5% margin of error.

The study employed a simple random sampling technique. It was selected for its effectiveness in ensuring that every member of the target population had an equal chance of being included in the sample. This approach is particularly advantageous in the context of this research given the challenges associated with data collection in Ghana. In many instances, individuals may not respond to or return questionnaires which can lead to biases and affect the reliability of the data collected (Gyensare, Anku-Tsedee, Sanda, & Okpoti, 2016). To implement this method, a comprehensive list of all eligible participants was compiled. This list included internal auditors, management staff and relevant stakeholders within the MMDAs. Ensuring that this list was as complete and accurate as possible was critical for the integrity of the sampling process. Utilizing simple random sampling mitigates potential issues related to response bias as it enhances the representativeness of the sample and

minimizes the risk of selection bias (Sekaran & Bougie, 2016). This methodology not only fosters a more inclusive approach to participant selection but also strengthens the validity of the findings, allowing for more generalizable conclusions regarding internal audit independence and effectiveness in the context of MMDAs.

Source of Data

The source of data is a critical aspect of any research endeavour, determining the quality and relevance of the information collected. Therefore, to fulfil the study's objective, primary data was employed as the data source. This choice was made because it enables researchers to acquire data that is dependable, accurate and up-to-date, which is particularly crucial for studies of this nature (Easterby-Smith et al., 2008; Saunders & Lewis, 2012).

Data Collection Instruments

This study used questionnaire as a data collection tool. This is because the use of questionnaire in research saves respondents time and it can also be filled without the presence of the researcher (Chang et al., 2020). Equally, most respondents feel using questionnaire enable them to answer without fear (Grassini & Laumann, 2020; Northstone et al., 2020). The questionnaire comprised four (4) distinct sections. Section A was designed to gather data regarding the respondents' demographics. Section B also collected data on internal audit independence. Section C captured vital data on internal audit effectiveness. Section D fetched data on auditor's job satisfaction.

According to the work of Hasan, Kassim, and Hamid (2020), internal audit independence was assessed using a five-item scale designed to capture various dimensions of auditors' autonomy and objectivity. This approach

allowed for the understanding of how independence influences the internal audit process. In addition, internal audit effectiveness was evaluated through another five-item scale, drawing on the methodology developed by Erasmus and Coetzee (2018). Further, the measurement of auditors' job satisfaction was informed by the framework established by Vandenabeele (2009). All variables were measured on a scale of 1-5.

Reliability and Validity of the Instrument

Reliability is explained as having the same results even if the measures were taken multiple times (Myer, Karim, Joubert & Ehrlich, 2007). The instruments considered were derived from tested and standardized instruments to minimize random measurement error. Liu, Kuang, Yin, and Hu (2017) emphasise that the function of construct or variable reliability is to mitigate errors and biases within a study. Consequently, the study's constructs' internal consistency was validated by computing Cronbach's Alpha coefficient for the study variables. It has been put forth that items are considered reliable when their Cronbach's Alpha coefficient is 0.70 or higher (Henseler, Ringle & Sarstedt, 2015). Furthermore, reliability of the variables was checked by looking at the reliability of the individual items and internal consistency reliability of the research items (Henseler, Ringle & Sarstedt, 2015).

The validity of an instrument, according to Naik, Jandavath and Byram (2016), determines how a research instrument measures the particular variables or constructs it supposed to measure. Validity is the accuracy with which a phenomenon is described (Bagozzi & Yi, 2012; Chin, 1998). Common sources of invalidity are selection, information and confounding bias (Myer et al., 2007). To reduce information bias, the researcher adapted survey instruments

with study design with high validity levels. Furthermore, based on the study objectives, validity was checked by determining the Average Variance Extracted (AVE).

Data Collection Procedure

Before the data collection, the researcher requested an introductory and permission letter from the Department of Accounting. The introductory and permission letter from the Department of Accounting were sent to the MMDCDs of all MMDAs in the Central Region for consultation and approval in order to assist the researcher to gain permission from the respondents to carry on with the administering of questionnaires to them. Data collection began on 17th August and ended on 30th August, 2023, with focus on weekdays and hours between 8:00am to 4:00pm, by all participating members (field assistants) of this study. Reaching respondents during the time frame seemed a bit tedious and daunting.

Data Processing and Analysis

The data collected from the questionnaires was initially screened for completeness and accuracy. Any incomplete or inconsistent responses were excluded to ensure the integrity of the dataset. Once the dataset was prepared, it was imported into statistical software such as SmartPLS for SEM analysis. Following the import, the analysis proceeded through several key steps. First, the measurement model was specified to establish the relationships between observed variables (indicators) and their respective latent constructs. This included confirming the reliability and validity of the constructs.

The first stage of analysis involved assessing the measurement model for reliability and validity. Indicators' loadings were examined to ensure they

were above the recommended threshold (0.70), confirming convergent validity. Additionally, composite reliability and average variance extracted (AVE) were calculated to evaluate internal consistency. After confirming the measurement model, the structural model was assessed to test the hypothesized relationships. This involved examining the path coefficients (relationship coefficients) to determine the strength and direction of relationships among constructs. The significance of these relationships was evaluated using bootstrapping techniques to obtain p-values.

To ensure that the constructs were not highly correlated, collinearity was assessed using the Variance Inflation Factor (VIF). A VIF value above 5 indicated potential issues with collinearity. Furthermore, effect sizes were calculated to determine the impact of each predictor variable on the dependent variable, indicating the practical significance of the findings. Predictive relevance was evaluated using the Q^2 statistic to assess how well the model predicts outcomes. Finally, the results were interpreted to confirm or reject each hypothesis based on the statistical significance of the path coefficients, R^2 values (indicating the amount of variance explained), and other relevant metrics.

Ethical Considerations

Rubin and Babie (2016) emphasise the significance of researchers being conscientious about ethical considerations. In line with these principles, the researcher in this study exercised utmost diligence in apprising participants about the study's objectives. In collecting the data, all participants who took part in the survey procedure for this study were well-prepared with all pertinent information regarding the study. Voluntary involvement, the right to privacy, anonymity and security of information were critically observed. With regards

to voluntary participation, every respondent was, on his/her own free will, allowed to participate in data collection exercise. The issue of anonymity was resolved by preventing respondents from supplying the questionnaire with specific details about themselves in relation to names, contact numbers and personal addresses.

Respondents were also guaranteed that none of their identities would be leaked to or used for any reason other than this analysis in public domain. All the information supplied by the responders is treated with the utmost secrecy. To avoid plagiarism, information from other studies that are utilized in the study is properly acknowledged. Additionally, the researcher clarified that participation is entirely voluntary.

Chapter Summary

This chapter provides essential insights into the research methods utilized in the study. It begins by discussing the research philosophy that underpins the investigation, establishing the theoretical framework guiding the research process. The chapter then outlines the research design and approach by detailing how these elements were structured to address the research questions effectively. Also, the chapter investigates into the sampling methods employed, including the criteria for selecting participants and the rationale behind the chosen sample size. It highlights the research instruments used for data collection, explaining their relevance and appropriateness for the study's objectives. The analytical techniques applied to the data are also examined, showcasing how these methods facilitated the interpretation of results. Furthermore, the chapter addresses the assessment of validity and reliability. Finally, ethical considerations are discussed, emphasizing the importance of

ethical practices throughout the research process to protect participants' rights and maintain the integrity of the study.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

The primary goal of this study was to examine the connection between internal audit independence and the effectiveness of internal audits of all MMDAs in the Central Region of Ghana by testing the mediating role of auditor satisfaction. In this chapter, an overview of the findings obtained from the analysis of the gathered data is presented. This encompasses the outcomes related to the association between internal audit independence and internal audit effectiveness, internal audit independence and auditor satisfaction, auditor satisfaction and internal audit effectiveness and the mediating influence of auditor satisfaction on internal audit independence and internal audit effectiveness.

Demographic Characteristics of Respondents

This section offers a summary of the demographic characteristics of the study participants, encompassing factors such as gender, age, educational qualifications, monthly income and years of experience of auditors. The data was collected from 113 Internal Auditors representing the twenty-two (22) MMDAs in the Central Region. As presented in Table 1, 59.3% of the respondents were males whereas 40.7% were females, implying that most of the internal auditors in the MMDAs in Central Region are males as compared to females. The result also shows that the majority (52.2%) of the auditors are between the ages of 32-41 years, followed by those within the ages of 21-30. Items on respondents' educational qualification shows that respondents who hold Diploma records 21.2%, Bachelor's Degree had 65.5% and Postgraduate

Degree document 13.3%. In addition, respondents earn monthly income ranging from GHS 2,001-3,000 represent 15.9%, GHS 3,001-4,000 represent 62.8% and GHS 4,001-5,000 represent 13.3% and 5,000 above represent 8%. Also, the items measuring the number of years respondents have worked as auditors documented that, 56.6% represent 1 – 5 years, 5 – 10 years represent 31.9% and 10 – 15 years indicate 11.5% (See Table 1).

Table 1: Demographic Characteristics of Respondents

Variable	Frequency	Percentage
Gender		
Male	67	59.3
Female	46	40.7
Age (years)		
21 – 31	39	34.5
32 – 41	59	52.2
42 – 51	13	11.5
Above 52	2	1.8
Educational Level		
Diploma	24	21.2
Undergraduate Degree	74	65.5
Postgraduate Degree	15	13.3
Income Per Month		
2,001-3,000	18	15.9
3,001-4,000	71	62.8
4,001-5,000	15	13.3
Above 5,000	9	8.0
Years of Work		
1– 5 years	64	56.6
5– 10 years	36	31.9
10– 15 years	13	11.5

Source: Field Survey (2023)

Common method bias

Chin (1998) claims that research with primary data of this nature should not face challenges with indicator loadings and path coefficient. Consequently, Harman's one-factor test was employed in the study and the factor for 16.167 which is lower than Podsakoff et al.'s (2003) 50% proposed threshold was obtained. Again, the full collinearity test from the PLS-SEM findings of the

Variance Inflation Factor (VIFs) was also used to affirm the presence of common method bias. From Table 5, it can be affirmed that the VIFs are less than Kock's (2015) proposed 3.3 threshold.

Table 2: Model Fit

	Saturated Model	Estimated Model
SRMR	0.058	0.089
d_ULS	3.223	6.723
d_G	2.083	2.195
Chi-Square	2210.436	2375.558
NFI	0.693	0.679
rms Theta	0.105	

Source: Field Survey (2023)

Based on Lohmöller's (1989) position on rms Theta values, rms Theta value in Partial Least Square (PLS) measurement models should be lower than 0.12 to be confirmed as a well-fitting model. Nevertheless, a figure above the threshold value of 0.12 in measurement model is not fit for further analysis (Lohmöller, 1989). Relying on Lohmöller's (1989) position on rms Theta values, the rms Theta value for the model is 0.105 and can be confirmed as fit for further analysis. In addition, a SRMR value of 0 in in Partial Least Square (PLS) measurement model means model fit. Yet, a measurement model can generate a SRMR value of 0.064 (Henseler et al., 2014). Besides, Hu and Bentler (1999) are of the view that a structural model is only fit when a SRMR value is less than 0.08. Given the position of Hu and Bentle (1999) on SRMR

threshold value, the SRMR value of 0.058 has been recorded in the model and it is considered as fit (see Table 2).

Checking for Reliability and Validity of the Model

The evaluation of the study's model commenced with an examination of the model's measurements to establish their reliability and validity. A loading is considered reliable when its outer loadings exceed 0.7 (Henseler, Ringle & Sarstedt, 2015). As depicted in Table 3, it is evident that the majority of the outer loadings surpass 0.7. However, items with loadings below 0.7 were retained in the model due to the attainment of acceptable AVE values. In assessing the constructs' reliability in the study, composite reliability for each construct was employed. As shown in Table 3, the composite reliability ranges from 0.741 to 0.932, indicating that the reliability criteria for the constructs have been met (Hair et al., 2014). The Cronbach's alpha values for the items range from 0.882 to 0.918. According to Bryman and Bell (2011), a Cronbach alpha value of ≥ 0.7 is indicative of adequate reliability. Consequently, Table 3 verifies that all the constructs meet the Cronbach's alpha threshold.

Furthermore, to establish convergent validity for each construct, the AVE values were examined. Chin (1998) and Hair et al. (2014) argue that the AVE should be 0.5 or higher. As demonstrated in Table 3, the model has achieved acceptable AVE values, ranging from 0.683 to 0.754, affirming the convergent validity for each construct.

Table 3: Summary of Measurement of Scale

Latent Variable	Indicators	Mean	SD	Loadings	CR	AVE	Cronbach Alpha
<i>Internal Audit Independence</i>					0.919	0.754	0.918
	IAI1	5.138	1.345	1.000			
	IAI2	5.485	1.308	1.024			
	IAI3	5.523	1.235	0.924			
	IAI 4	5.738	1.113	0.842			
	IAI 5	5.615	1.192	0.903			
<i>Internal Audit Effectiveness</i>					0.886	0.683	0.882
	IAE1	5.723	1.067	1.000			
	IAE2	5.569	1.271	1.187			
	IAE3	5.854	1.068	1.049			
	IAE4	5.954	1.094	1.019			
	IAE5	5.654	1.155	0.911			
<i>Internal Auditor Job Satisfaction</i>					0.932	0.716	0.914
	IAJS1	5.546	1.216	1.000			
	IAJS2	5.454	1.253	0.656			
	IAJS3	5.062	1.766	1.857			
	IAJS4	5.354	1.433	1.548			
	IAJS5	5.341	1.293	1.255			
	IAJS6	5.332	1.233	1.328			

Source: Field Survey (2023)

According to Hair et al. (2016), it is crucial for researchers to ascertain and assess the discriminant validity of a model in PLS-SEM. Fornell and Larcker (1981), along with Hair et al. (2016), have demonstrated that a structural model achieves discriminant validity when the average variance extracted values for each construct surpass the squared correlation value between the constructs. Drawing from the perspective put forth by Fornell and Larcker (1981) and Hair et al. (2016) regarding discriminant validity, it can be confidently stated that all constructs fulfil the requisite criterion for discriminant

validity. This verification solidifies the discriminant validity of the model (See Table 4).

Table 4: Fornell–Larcker criterion for Determining Discriminant Validity

	IAJS	IAI	IAE
IAJS	0.689		
IAI	0.660	0.802	
IAE	0.580	0.595	0.848

Source: Field Survey (2023)

Note: Internal Audit Independence (IAI), Internal Audit Effectiveness (IAE) and Internal Auditor Job Satisfaction (IAJS).

Testing hypotheses

Table 5: Hypotheses Results

IV	DV	Path coeff.	S. E	t-Stats	P- Values	R ²	f ²	Q ²	VIF
IAI	IAE	0.58 2	0.03 4	6.283	0.000	0.81 2	0.00 7	0.35 3	1.35 7
IAI	IAJ S	0.656	0.01 6	21.502	0.000	0.61 6	0.00 8	0.184	1.63 4
IAJS	IAE	0.23 2	0.03 3	4.73	0.000	0.81 2	0.41 3	0.35 3	1.39 4

Source: Field Survey (2023)

Note: Internal Audit Independence (IAI), Internal Audit Effectiveness (IAE) and Internal Auditor Job Satisfaction (IAJS).

The study data were analysed using PLS analytical approach. Table 5 presents the R² values in the structural model. The model depicted by the hypotheses shows that internal audit independence described 96% of variation in internal audit effectiveness. Also, internal auditor job satisfaction has R² value of 0.694. The aforementioned R² values are good enough to make it possible for the interpretation of the path coefficients. Testing the study, hypotheses was established by examining the path coefficient and its related p-value. As clearly shown in Table 5, all the hypothesized direct relationships were supported by the structural model data.

H₁: There is a significant positive nexus between internal audit independence and internal audit effectiveness

From Table 5, the path coefficient ($\beta = 0.582$, $p = 0.000$) indicates that the path model from internal audit independence to internal audit effectiveness is positive and significant. This finding is consistent with H₁ since a positive relationship has been established between the variables. The implication of this finding is that internal audit independence contributes significantly to internal audit effectiveness. One reason could principally account for this result. Based on the thrust of the social exchange theory, it is likely that MMDAs that are committed to internal audit independence also tend to be more concerned about their internal audit effectiveness (Cropanzano & Mitchell, 2005).

In the same way, the result connects positively with the findings of Bananuka et al. (2018), Ashfaq and Rui (2019) and Kaawaase, Bananuka, Kwizina and Nabaweesi (2020). The scholars found that internal auditors that are allowed to work without interference from organisational managers, employers and government are better positioned to improve their internal audit effectiveness. This is because the sense of independence given to internal auditors tends to influence their attitudes towards internal audit effectiveness (Abdullah & Mustafa, 2020; Ahmeti & Aliu, 2022).

Furthermore, the results align with the findings of Narayanaswamy, Raghunandan, and Rama (2019), who concluded that internal audit independence is more likely to enhance internal audit effectiveness primarily due to the freedom it affords auditors to work without constraints that could compromise their ability to fulfill internal audit responsibilities. Similarly, Yeboah (2020) noted that the linkage between internal audit independence and

internal audit effectiveness is solidified when internal audit independence measures prove beneficial to auditors. Moreover, Abdullah and Mustafa (2020) contended that the influence of internal audit independence on internal audit effectiveness hinges on auditors' perceptions of their organization's internal audit independence.

H₂: There is a significant positive relationship between internal audit independence and auditor satisfaction.

Besides, ($\beta = 0.656$, $p = 0.000$) clearly indicates a significant positive connection between internal audit independence and internal auditor satisfaction. This result resounds with the second hypothesis of this study that links MMDAs' internal audit independence initiatives to internal auditor satisfaction. Some reasons could account for this result. First and foremost, it is argued that the value perceived through internal audit independence can have a positive influence on auditor satisfaction. Secondly, MMDAs that formulate and implement internal audit independence policies take into account the interests of auditors.

Auditors whose needs are important tend to be more satisfied with the organisation (Filfilan, 2022; Hapsari & Ningrum, 2022). The study finding in H₂ also affirmed the position of some scholars (Bartlett, Kremin, Saunders & Wood, 2017; Naiyananont & Smuthranond, 2017) that institutions such as MMDAs who tend to be more conscious of the rights of employees and the physical environment are better positioned to enhance the satisfaction of their auditors.

H₃: Auditor satisfaction is positively linked to internal audit effectiveness.

Again, it is reported in H₃ that ($\beta = 0.232$, $p = 0.000$) illustrate a positive relationship between auditor satisfaction and internal audit effectiveness. The implication of this result is that internal auditor job satisfaction does lead to internal audit effectiveness. Therefore, H₃ is supported. It has been advanced that if internal auditors become satisfied with their internal audit functions offered by their organisation, they are more likely to develop positive attitudes which will result into their internal audit effectiveness (Eulerich et al., 2019; Khavis, Krishnan & Tipton, 2022).

Ma'Ayan and Carmeli (2016) have also recognised that satisfied internal auditors tend to offer quality internal audit on continuous basis. Some prior investigations in the internal auditing domain (Petridis, Drogas & Zografidou, 2021; Poee, Barac, Plant & Steyn, 2022) have also documented that satisfied internal auditors untimely improve their internal audit effectiveness.

According to Götz et al. (2010), a Q^2 figure bigger than zero is said to have a predictive relevance. A $Q^2 = 0.353$ indicate that internal audit independence has a large predictive relevance for internal audit effectiveness. A $Q^2 = 0.184$ shows that internal auditor job satisfaction has a medium predictive relevance for internal audit effectiveness.

Mediation Analysis**Table 6: Mediation Analysis**

IV	MV	DV	Path coeff.	S. E	t-Stats	P-Values
IAI	IAJS	IAE	0.319	0.069	4.605	0.000

Source: Field Survey (2023)

Note: Independent Variables (IV), Dependent Variable (DV), (MV) Mediating Variable, Internal Audit Independence (IAI), Internal Audit Effectiveness (IAE) and Internal Auditor Job Satisfaction (IAJS).

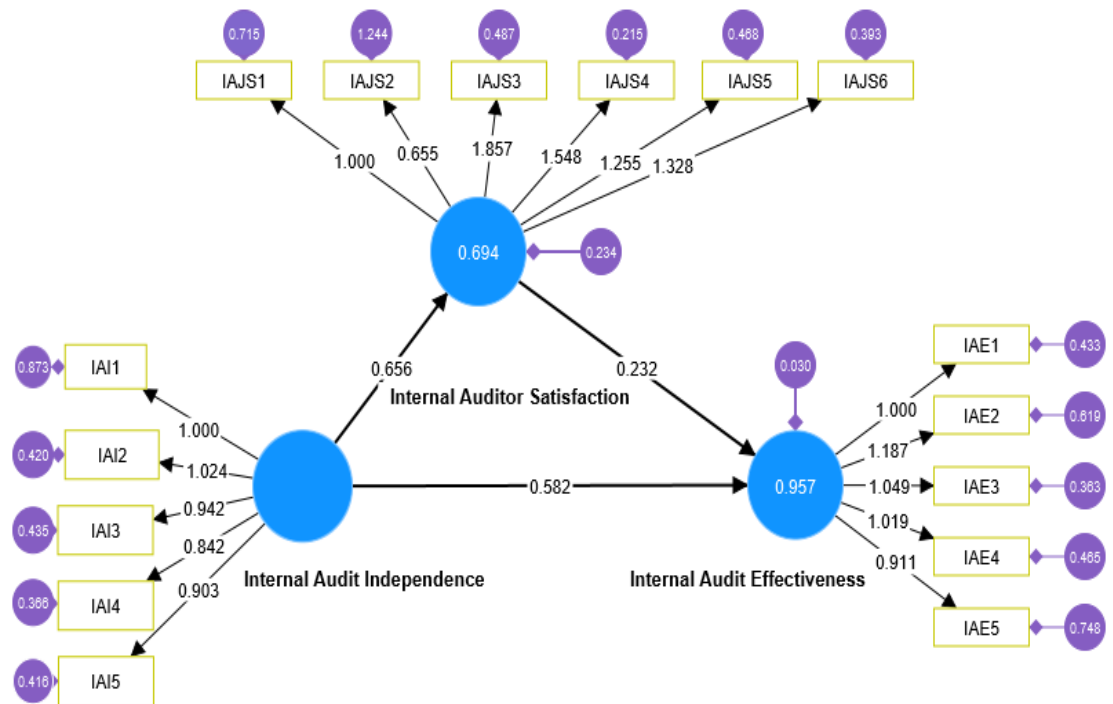


Figure 3: Path Modelling and Factor Loading Results
Source: Field Survey (2023)

H4: Auditor satisfaction mediates the nexus between internal audit independence and internal audit effectiveness.

As illustrated in Table 6 and Figure 2, the study has clearly established a significant and favourable association in regards to independence of internal audit and effectiveness of internal audit. Consequently, it is apparent that the perceptions of internal audit independence make a noteworthy contribution to internal audit effectiveness ($\beta = 0.582$, $p = 0.000$). Additionally, the result ($\beta = 0.656$, $p = 0.000$) signifies that internal audit independence leads to auditor satisfaction. Furthermore, internal auditor satisfaction plays a vital role in

enhancing internal audit effectiveness ($\beta = 0.232$, $p = 0.000$). Given that the path from internal audit independence to internal audit effectiveness indicates a significant connection ($\beta = 0.582$, $p = 0.000$), the indirect finding ($\beta = 0.319$, $p < 0.000$) between internal audit independence and internal audit effectiveness is both positive and significant.

In conclusion, it can be affirmed that auditor job satisfaction serves as a partial mediator in the nexus concerning independence of internal audit and effectiveness of internal audit. Drawing upon arguments that internal audit independence bolsters internal audit effectiveness (Roussy & Perron, 2018; Alqudah, Amran & Hassan, 2019; Anh, Thi, Quang & Thi, 2020; Antoniuk et al., 2021) and that, auditor satisfaction contributes to internal audit effectiveness (Luthan, Ali & Hairaty, 2019; Behrend & Eulerich, 2019; Gadi & Lukiastuti, 2021), it is reasonable to expect that auditor satisfaction will mediate the internal audit independence and internal audit effectiveness association (Ta, & Doan, 2022). Thus, the implementation of internal audit independence initiatives enhances auditors' perceptions of the internal audit services provided (Luthan, Ali & Hairaty, 2019; Behrend & Eulerich, 2019; Gadi, Djou & Lukiastuti, 2021), subsequently leading to improved internal audit effectiveness (Temesgen & Estifanos, 2018; Trotman & Duncan, 2018; Ta & Doan, 2022).

Chapter Summary

This chapter provided an overview of the findings obtained from the analysis of the gathered data is presented. This encompasses the results related to the association between internal audit independence and internal audit effectiveness, internal audit independence and auditor satisfaction, auditor satisfaction and internal audit effectiveness and the mediating influence of

auditor satisfaction on internal audit independence and internal audit effectiveness. It also discussed the results in relation to prior studies.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter presents the summary of the findings reported in chapter four of the study. It further draws a conclusion and makes recommendations for Heads of Covered Entities for the MMDAs and recommendations for future research into this subject matter.

Summary of the study

This study explored the connection in regards to internal audit independence and internal audit effectiveness, emphasizing the potential mediating impact of internal auditor satisfaction. The study collected primary data from 113 Internal Auditors working in the Central Region's MMDAs. The choice of MMDAs in the Central Region was motivated by the challenges they encounter in enhancing their internal audit effectiveness. To analyse the study data, the Partial Least Square estimation technique was applied. This choice was made due to its capacity to prevent biased estimates of item loadings and its ability to concurrently assess connections among model constructs. The study's pertinent literature and hypotheses were expounded and subsequently evaluated. The study adopted an explanatory research design. Theoretical underpinnings were grounded in the agency theory.

Summary of Key Findings

Internal audit independence and internal audit effectiveness

The study affirms the social exchange theory position that there is cost-benefit of engaging in an association between organisational managers and employees. Employees such as internal auditors are one of the main concerns

for MMDAs because, being mandated to conduct internal audit, their performance are vital for their survival. In this case, MMDAs needs to make their internal auditors independent to advance their internal audit effectiveness. It is also believed that such situation will make them satisfied with their audit job. Also, the study found that internal auditors that are allowed to work without interference from organisational managers are better positioned to advance internal audit effectiveness. This is because the sense of independence given to internal auditors tends to influence their attitudes towards audit effectiveness.

The mediating role of Auditor Satisfaction on the relationship between internal audit independence and internal audit effectiveness

The result provides evidence that the association between internal audit independence and internal audit effectiveness is in part, mediated by the job satisfaction of internal auditors. As a result, the introduction of internal audit independence measures positively affects auditors' perceptions of the quality of internal audit services provided. Ultimately, this shift contributes to the enhancement of internal audit effectiveness.

Conclusion

The investigation centred on the association between internal audit independence and internal audit effectiveness, with a specific emphasis on the mediating influence of internal auditor satisfaction. The findings unveiled a favourable connection between internal audit independence and internal audit effectiveness. Moreover, the study observed that internal auditor satisfaction acts as a partial mediator in the relationship between internal audit independence and internal audit effectiveness. This underscores the significance of internal

auditor satisfaction in shaping the level of internal audit effectiveness acting as a driving force for delivering top-quality internal audits.

Recommendations

The study makes available a number of considerable recommendations for the Local Government Service, Audit Committees and Heads of Covered Entities for the MMDAs:

Firstly, because it has been recognised that the association between internal audit independence and internal audit effectiveness is positive and significant, Local Government Service should promote a strong reporting line directly to board, establish clear audit policies, provide ongoing training on ethical considerations, and encourage a culture that values scepticism and unbiased assessments in the performance of internal audit duties in order to enhance their internal audit effectiveness in the MMDAs. Thus; Local Government Service and the Audit Committee should initiate the appointment, promotion and transfer processes and complete it.

No internal person from the MMDAs should be involved in these processes to intimidate internal auditors in performing their functions.

Also, fair conditions of service and a well-structured salary can help deter corrupt practices, fostering integrity, independence and auditor job satisfaction.

In summary, given the fact that the nexus concerning the independence internal audit and effectiveness of internal audit is both substantial and **positive**, auditor satisfaction partially plays a role in this connection. Hence, the Local Government Service, Audit Committees and Heads of Covered Entities of MMDAs should pay attention to their internal auditor's independence in order to enhance internal auditors' job satisfaction.

Suggestions for Further Research

Subsequent investigations into the relationship between internal audit independence and internal audit effectiveness should encompass all MMDAs in Ghana to validate the results obtained in this study. Moreover, future research endeavours should delve into the potential moderating role of auditor job satisfaction in the connection in relation to the constructs.

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APPENDICES

APPENDIX A

QUESTIONNAIRE FOR INTERNAL AUDITORS

Dear Respondent,

The core objective of my research is to examine the nexus between internal audit independence and internal audit effectiveness among all the Metropolitan, Municipal, and District Assemblies (MMDAs) in the Central Region, while also exploring the mediating influence of auditor job satisfaction. I highly value your insights, and your contribution to this research is entirely voluntary. To safeguard your privacy, there is no need to disclose personal information such as your name, phone number, or email address, or any details that could identify you.

Section A: Demographic Data

1. Gender
Male ☐
Female ☐
2. Age
21-31 years ☐
32-41 years ☐
42-51 years ☐
52 years above ☐
3. Educational Level:
Diploma ☐
Bachelor's degree ☐
Postgraduate Degree ☐
4. Income per month
Below 2,000 ☐
2,001 – 3,000 ☐
3001 – 4,000 ☐
4,001 – 5,000 ☐
others

5. How long have you worked as an internal auditor:

Less than 1 year ☐

1-5 years ☐

5-10 years ☐

10-20 years ☐

More than 20 years ☐

Section B: Internal Audit Independence

Please rate your level of agreement with the following statements on a scale of 1 to 5, where 1 represents "Strongly Disagree" and 5 represents "Strongly Agree."

Items	1	2	3	4	5
Internal auditors are not subject to interference in the execution of their duties.					
Internal auditors are at liberty to include any audit discoveries in their reports.					
Internal auditors submit their reports to the board of directors' audit committee without managerial intervention.					
The board of directors or the audit committee holds the responsibility for overseeing personnel-related decisions within the internal audit function.					
Internal auditors are prohibited from participating in audit activities related to operations for which they hold responsibility					

Section C: Internal Audit Effectiveness

Please rate your level of agreement with the following statements on a scale of 1 to 5, where 1 represents "Strongly Disagree" and 5 represents "Strongly Agree."

Items	1	2	3	4	5
Internal auditors ensures that MMDAs go through their auditing process as recommended					
Internal auditors are dependable when handling the MMDAs problems					
Internal auditors ensure that auditing are taken on time and that no mistakes are made with dosage					
Internal auditors have MMDAs internal audit interest at heart					
Internal auditors deals with MMDAs internal audit complaints with urgency					

Section D: Internal Auditor's Job Satisfaction

Please rate your level of agreement with the following statements on a scale of 1 to 5, where 1 represents "Strongly Disagree" and 5 represents "Strongly Agree."

Items	1	2	3	4	5
In general, I am content with my role as an auditor.					
I find my work as an auditor engaging.					
My current position as an internal auditor aligns with my expectations.					
My job as an internal auditor is enjoyable.					
I am content with my salary and other benefits.					
I am content with my current job position.					

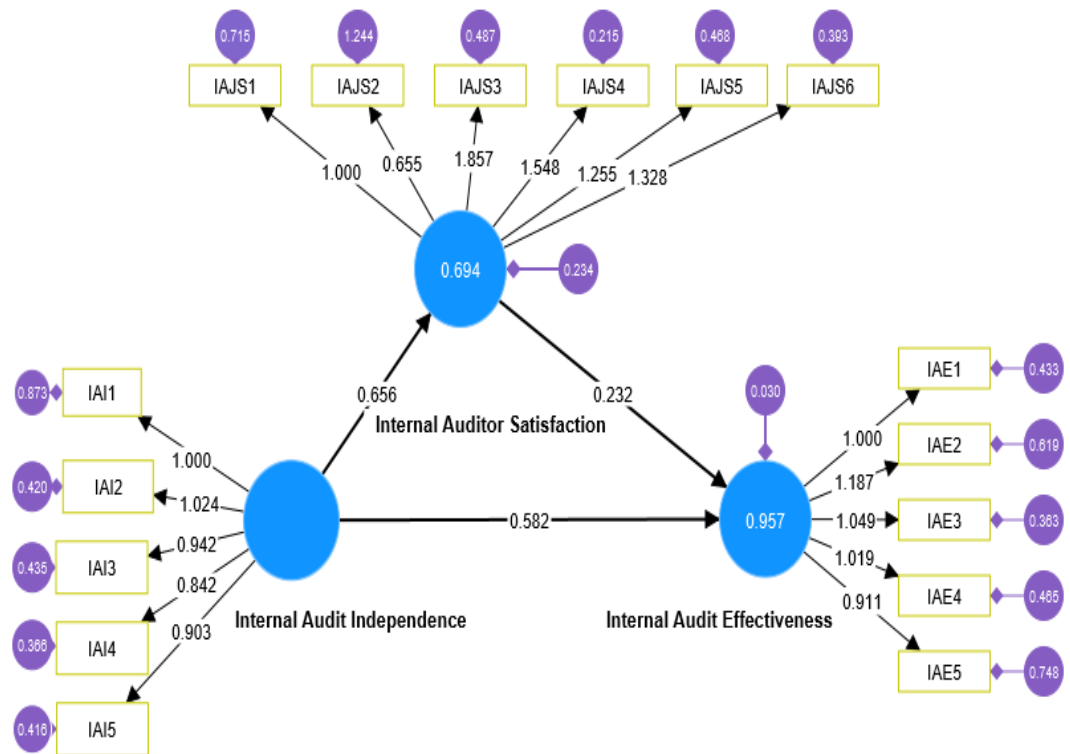
APPENDIX B**PATH MODELING AND FACTOR LOADING RESULTS**

Figure 3: Significance of Factor Loadings and Path Coefficient

Source: Field Survey (2023)