

# **Factors Impacting the Effectiveness of Internal Audit in the Saudi Arabian Public Sector**

Thesis submitted in fulfilment of the requirements for  
the degree of Doctor of Philosophy

by:

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2020

## **Abstract**

This study investigates the effectiveness of internal audits in the Saudi Arabian public sector. The resource-based theory is used to explore external and internal factors that impact internal audit effectiveness. External factors are those outside the control of an internal audit department while internal factors are those within its control. The study examines the relationships between three external factors: top management support, organisational culture and independence of internal audits. It also examines the relationships between four internal factors: motivation of internal audit staff, size of the internal audit team, utilisation of information technology (IT) and competence of internal auditors. Lastly, the study considers the reasons for the non-implementation of internal audit units in some government organisations.

Data were gathered using a mixed methods approach consisting of semi-structured interviews and a questionnaire. A total of 36 semi-structured interviews was conducted to gain the participants' views on the nature of internal audits in the Saudi public sector and of the issues affecting the effectiveness of the audits. Further, 300 questionnaires were distributed to the managers of internal audit units and internal audit staff in the Saudi Arabian public sector, of which 290 were returned completed.

The data were analysed thematically and statistically. Thematic analysis was used to analyse the interviews. The interview data were unanimous that top management support impacted not only internal audit effectiveness but also the other external factors. The interview findings also revealed a direct association between the three external factors. Multiple regression was used to analyse the collected data. The findings showed that the key external factors affecting internal audit effectiveness were top management support, organisational culture and independence of the internal audit. The first ordinary least squares (OLS) regression model indicated that, of these external factors, top management support was the most significant impacting internal audit effectiveness. In contrast, the interview data suggested that the competence of internal auditors was the most significant factor, affecting not only internal audit effectiveness but the other internal factors as well. The interview data also indicated a direct association between the four internal factors. The second OLS regression model suggested that, of the internal factors, the competence of internal auditors was the primary driver of internal audit effectiveness. As a standalone

construct, the competence of internal auditors significantly impacted internal audit effectiveness; however, the same could be said of the links between internal audit effectiveness and the motivation of internal audit staff, the size of internal audit team and the utilisation of IT.

In line with the resource-based theory, it is suggested that the Saudi public sector should capitalise on an effective internal audit as a valuable resource to promote organisational activities. The findings also revealed that although Saudi public organisations are legally required to have established internal audit departments, this function was lacking in a substantial number of organisations.

## **Declaration**

I, Ahmed Salman Almahuzi, declare that the PhD thesis entitled *Factors Impacting the Effectiveness of Internal Audit in the Saudi Arabian Public Sector*, is no more than 100,000 words in length, including quotes and exclusive of tables, figures, appendices, bibliography, references and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work.

Signature:

Date: 9/03/2021

## **Acknowledgements**

Throughout this research, Allah has been faithful to me. Allah granted me the strength, ability and good health to carry out this study successfully. I have also been blessed by Allah with a sound mind that has enabled me to persevere and overcome the many obstacles that emerged during this research; I am grateful to Allah for this.

I would also like to acknowledge some special individuals who have provided me with outstanding support and guidance throughout this research.

First, I am grateful to Professor Colin Clark, my principal supervisor. Professor Clark mentored and supported me, setting me on the path to successfully complete this study. His patience and assistance have sustained me throughout my research journey. I would like to thank my second supervisor, Dr Aquinas John Purcell, for his encouragement and assistance over the last four years. His valuable suggestions have enriched this study. I would also like to thank the chair of the panel and the panel members, Dr Riccardo Natoli, Associate Professor Eva Tsahuridu, Dr Helen Yang, Dr Maria Prokofieva and Dr Chitra DeSilva, for their help and support. Their insightful comments and recommendations have enhanced the content and quality of this study. To the staff of Victoria University, I could never have done this without your assistance; thank you.

Second, I would like to thank the government of the Kingdom of Saudi Arabia and King Khalid University for supporting me academically and financially. I also extend my sincere gratitude to all the participants in this study for volunteering their time and effort; without their contribution, this study would not have been possible.

Third, it is with great humility that I extend my deepest gratitude to my wife and partner, Mrs Duah, and our twin daughters, Fatimah and Zahra. They have been patient, understanding and extremely supportive during this research project. My siblings have also motivated and supported me every step of the way, and I am grateful for that as well.

Fourth, I would like to thank my colleagues; we challenged each other, supported each other and drew strength from one another's perseverance. Thank you for your example of hard work and dedication.

Finally, I would like to acknowledge that this thesis was edited and proofread via Elite Editing. The editing of this thesis is based on the Guidelines of Proof-reading and Editing Research Theses and Dissertation. The editing of this thesis is also limited to D and E of the current Australian Standards for Editing Practice.

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## **List of Abbreviations**

ASECGC	Australian Securities Exchange Corporate Governance Council
CAE	Chief Audit Executive
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CIA	Certified Internal Auditor
CIB	Control and Investigation Board
CIIA	Chartered IIA
CPA	Certified Public Accountant
GAB	General Accounting Bureau
GAS	Generalised Audit Software
IA	Internal Audit
IAE	Internal Audit Effectiveness
IAF	Internal Audit Functions
IIA	Institute of Internal Auditors
IPA	Institute of Public Administration
IIA	International Institute of Internal Auditors
INTOSAI	International Organisation of Supreme Audit Institutions
IPPF	International Professional Practices Framework
ISPPIA	International Standards for Professional Practice of Internal Auditing
IT	Information Technology
KSA	Kingdom of Saudi Arabia
MCI	Ministry of Commerce and Investment
MCS	Ministry of Civil Service
MoF	Ministry of Finance
MTG	Management Training Ground
NAATI	National Accreditation Authority for Translators and Interpreters
OLS	Ordinary Least Squares
SACM	Saudi Arabian Cultural Mission
SOCPA	Saudi Organisation for Certified Public Accountants
UK	United Kingdom
US	United States

VUHREC

Victoria University Human Research Ethics Committee

# Chapter 1: Introduction

## 1.1 Background

All countries and governments are responsible for the use of national resources and public funds and for ensuring that these resources are used efficiently, effectively and economically for public service delivery. In this regard, the internal audit function (IAF) is a key mechanism for monitoring the use of the scarce resources available. This function plays a pivotal role in all organisations, especially in larger and more complex systems that need greater and more prudent use of available resources to increase their competitive advantage (Alkebsi & Aziz 2018; Asiedu & Deffor 2017; Ridley 2008).

In the recent past, internal auditors were not viewed as autonomous but as mere assistants to accountants and external auditors. In contrast, internal auditors are today perceived as independent professionals who play a critical role in promoting the effective and prudent use of organisational resources. However, the independence of internal auditors has frequently been identified as a significant issue, particularly when internal auditors are staff members at the organisations they audit. In the absence of organisational structures and appropriate reporting lines for internal auditors, this issue becomes more problematic in the public sector (Alzeban & Gwilliam 2014; Norman, Rose & Rose 2010).

Over the past decades, IAFs have received considerable attention in Western countries. Regulators have enforced more stringent controls over external audit functions in an effort to leverage internal audit and improve efficiency (Okodo, Aliu & Yahaya 2019). As noted by Lenz and Hahn (2015), out of necessity, internal auditing has undergone a transformation, becoming an essential part of the business environment. Further, Mihret and Yismaw (2007) contend that most large organisations in the public sector require an IAF to survive. According to Roussy, Barbe and Raimbault (2020), the increasing attention paid to IAF and the transformation of internal audit into an indispensable part of business operations are being accelerated by increasing business risk, both within and outside organisations.

Because of its remedial and deterrent capabilities, internal auditing has also become integral in improving organisations' operational performance and financial integrity (Dittenhofer 2001a). As noted by Tackie, Marfo-Yiadom and Achina (2016), internal

audits pose a unique challenge for public sector organisations because they not only focus on internal control and adherence to regulations, but also aim to provide consulting services and suggest improvements for organisational operations. According to the Institute of Internal Auditors (IIA) (2017):

[i]nternal auditing is an independent, objective assurance and consulting activity designed to add value and improve an organisation's operations. It helps an organisation accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control and governance processes.

Moreover, internal auditing plays a pivotal role in ensuring that organisational assets are used effectively and in line with the organisation's objectives and goals (Van der Schyf 2000).

Public sector entities are regarded as part of the public body. According to the Saudi government website, Ministry of Finance (2018), public sector entities are partly or entirely financed by the national budget and are expected to provide basic government services to citizens. If these government entities are partly funded by the national budget, then they have their own sources to cover the expenses. For example, some public institutions receive a small part of the funds from the government because these institutions usually have their own sources of funds from providing services (see Chapter 2 for more details). The public sector includes many different organisations with diverse compositions and functions. The key purpose of these bodies is to achieve the goals of governments. The public sector provides services such as security, power, transportation, policing, healthcare, communication, education, finance and banking. All public services benefit the entire nation by providing all citizens equal access to opportunity (Finkler, Smith & Calabrese 2018). Public sector organisations apply internal auditing processes differently to private sector organisations. These differences lie in internal auditors' roles and responsibilities as well as how these functions are fulfilled. This is expected because public sector organisations differ from private ones in size, function and complexity. However, internal audit processes within government entities can be influenced by a country's level of maturity and by cultural considerations. Both these factors can hinder internal audits, making it more difficult for organisations to reach their objectives and

goals, including state goals (Dicle & Usluer 2016; Lenz, Sarens & D'Silva 2014; Saad & Abbas 2019).

This study examines the external and internal factors impacting the effectiveness of internal audits in the Saudi public sector. It also provides recommendations to increase the efficiency and effectiveness of internal auditing. The study examines the relationship between three external factors impacting internal audit effectiveness: top management support, organisational culture and the independence of the internal audit. It also examines the relationship between four internal factors impacting internal audit effectiveness: the motivation of internal audit staff, the size of the internal audit team, the utilisation of information technology (IT) and the competence of internal auditors.

Chapter 1 provides a background of the study, which includes an explanation of the internal audit. This chapter discusses the research problem, the specific aims and objectives of the study as well as the study questions. It highlights existing knowledge on the study topic, states the significance of the study and explains the research method. The chapter concludes with an outline the study structure.

## **1.2 Research Problem**

The recent global financial crisis and the many scandals that profoundly influenced the business world in the early 2000s have raised questions as to whether internal auditing is being performed appropriately to ensure compliance with regulatory controls and standards to help manage risks (Chambers & Odar 2015; Soh & Martinov-Bennie 2011; Kirkpatrick 2009). Regulatory bodies across many developing countries are now insisting on more detailed information about governance and audit functions (Alzeban & Gwilliam 2014; Getie Mihret, Mula & James 2012; Unegbu & Kida 2011). The goal of regulators and the regulations they enact is to uphold public trust (Zain & Subramaniam 2007). Some developing countries have enacted regulations for establishing and the developing IAFs in their organisations to maintain public trust and to safeguard assets.

In Saudi Arabia, legal requirements for internal audit were non-existent until 2004 when Resolution No. 235 was issued. Prior to this, IAFs were not established nor thoroughly developed (Alzeban & Gwilliam 2014). In those organisations where internal audit was established, there were significant challenges relating to unqualified personnel and the

degree of independence of internal audit departments (Al-Twajjry et al. 2004). Based on institutional theory, the state deemed it necessary to impose measures that forced organisations to establish internal audit departments. Since the passage of Resolution No. 235 in 2004, other regulations such as Resolution No. 129 in 2007 have been established to enhance internal audit (IA) activities. Resolution No. 129 on internal audit effectiveness (IAE) regulation mandated all organisations that were subject to the General Accounting Bureau (GAB) to establish IAFs. According to Alzeban and Gwilliam (2012), many large Saudi organisations have failed to comply with this regulation and have yet to establish IAFs that meet the requirements of Resolution No. 129. Furthermore, there have not been any adverse consequences from the GAB.

Among developing nations, the Kingdom of Saudi Arabia (KSA) has a unique cultural and institutional context. For instance, the Saudi government is an Islamic monarchy and the King leads the country through the Council of Ministers. Saudi Arabia is characterised by core Islamic beliefs, strong cultural mores and fundamental social relationships (Al-Twajjry et al. 2003; Alzeban & Gwilliam 2014). Since Saudi Arabia is still a developing country, various issues need to be addressed in its public sector. One of these is the lack of a public sector audit committee (Alzeban & Sawan 2013). The Saudi government needs to take the initiative to establish and develop a public sector audit committee (Al-Twajjry et al. 2003; Alzeban 2015b). Moreover, many government organisations have failed to create internal audit departments, despite the directive from the GAB (Alzeban & Gwilliam 2014).

Recent fraudulent activities and corruption using public funds have been the focus of concern for the King of Saudi Arabia and his son, the Crown Prince Mohammed bin Salman (Alharbi 2015). In the Council of Ministries, the King and his son have highlighted certain points about improving government performance through strategies that should be implemented (Alzeban 2010), indicating that:

we must not persist unchanged and our surrounding world has been changing, so we must keep evolving in the development processes and extend the national dialogue and enhance economic growth, resist corruption and increase the efficiency and effectiveness of government performance.

A recent financial scandal in November 2017 raised questions about the effectiveness of internal auditing in protecting public funds and reducing corruption (Noor & Mansor

2018). As was widely reported, some businessmen and Saudi government officials were arrested in an anti-corruption campaign (Aleem 2017; Warf 2019). Those arrested included members of the Royal Family and several of the Kingdom's most prominent business figures. The arrests came shortly after a new anti-corruption committee, directed by Crown Prince Mohammed bin Salman, was formed by royal decree. Earlier in 2017, the Crown Prince declared that any person guilty of corruption would be punished (Aleem 2017; Omran 2019). 'No one is above the law, whether it is a prince or a minister,' Prince Mohammed stated in a television interview (Omran 2019). The Saudi minister of culture and information applauded the royal decree that established the anti-corruption commission, adding that Saudi leadership is 'keen to protect public money and eradicate corruption, which hampers the economy and society' (Warf 2019). The minister also noted that the decree was a 'clear message' that no one involved in corruption could escape justice. The Saudi government claims that since the anti-corruption crackdown, it has recovered more than US\$106 billion (Omran 2019; Warf 2019). This current scandal has increased public calls for greater accountability and better internal auditing in the country (Noor & Mansor 2018).

### **1.3 Research Aims and Objectives**

The overall aim of the study is to investigate the effectiveness of internal audits in the Saudi public sector and to use resource-based theory to examine external and internal factors that impact the effectiveness of internal audit. The external factors are those outside control of internal audit departments while the internal factors are those within their control.

To achieve the aim of this study, the research objectives and questions have been formulated as follows:

- Objective 1: To determine the practices and characteristics that influence the effectiveness of IAFs in the Saudi public sector.
- Objective 2: To examine the relationship between internal audit effectiveness (dependent variable) and three external factors (independent variables) in the Saudi public sector based on the perceptions of managers of internal audit units and internal audit employees, namely:
  - a. top management support

- b. organisational culture
  - c. independence of internal audit.
- Objective 3: To examine the relationship between internal audit effectiveness (dependent variable) and four internal factors (independent variables) in the Saudi public sector based on the perceptions of managers of internal audit units and internal audit employees, namely:
  - a. motivation of internal audit staff
  - b. size of the internal audit team
  - c. utilisation of IT
  - d. competence of internal auditors.
- Objective 4: To identify (via a qualitative approach) the nature and extent of the impact of external factors on the effectiveness of internal audit in the Saudi public sector.
- Objective 5: To identify (via a qualitative approach) the nature and extent of the impact of internal factors on the effectiveness of internal audit in the Saudi public sector.
- Objective 6: To determine (via a qualitative approach) the reasons for the non-implementation of internal audit units in some government organisations.
- Objective 7: To provide recommendations for government/regulatory institutions and for the public sector.

## **1.4 Research Questions**

To achieve the aim of this study, research questions have been formulated based on the research objectives as follows:

- *RQ1*. How do the external factors such as top management support, organisational culture and independence of internal audit impact the effectiveness of internal audit in the Saudi public sector?
- *RQ2*. How do the internal factors such as motivation of internal audit staff, size of the internal audit team, utilisation of IT and competence of internal auditors impact the effectiveness of internal audit in the Saudi public sector?
- *RQ3*. To what extent do the external factors impact the effectiveness of internal audit in the Saudi public sector?

- *RQ4*. To what extent do the internal factors impact the effectiveness of internal audit in the Saudi public sector?
- *RQ5*. Why have IAFs been established in some, but not all, public sector organisations in the Saudi public sector?

## **1.5 Contribution to Knowledge and Statement of Significance**

This study is expected to make theoretical and practical contributions to knowledge on internal audit effectiveness. From a theoretical perspective, the review of prior literature indicates that there is no specific theory that completely elucidates the effectiveness of IAFs. As noted by Endaya and Hanefah (2013), there is scant research and little consensus on the theories that could be used to establish a theoretical framework for the evaluation of internal audit effectiveness. Therefore, this study adopts a resource-based approach in an attempt to provide a theoretical underpinning for internal audit effectiveness. It also contributes more broadly to studies that have used resource-based theory to explore the drivers of internal audit effectiveness. For example, using the resource-based theory, Nasibah (2015) shows that the organisational characteristics, departmental characteristics, employees characteristics and managerial practices explain internal audit effectiveness while Alkebsi and Aziz (2018) find that firm resources such as information technology usage and top management support are significant drivers of internal audit effectiveness. This study is different from prior research in that it employs the resource-based theory to examine the impact of external and internal factors on internal audit effectiveness in the context of Saudi Arabia. Resource-based theory is also used to elucidate the strategic resources and capabilities that most significantly impact internal audit effectiveness in the Saudi public sector.

From a practical perspective, several studies have identified factors that impact the effectiveness in public and private organisations in both developed and developing countries (see Chapter 3). These studies include Abbott et al. (2016), Alzeban and Gwilliam (2014), Brierley, El- Nafabi and Gwilliam (2001), Drogalas, Karagiorgos and Arabatzis (2015), Mihret and Yismaw (2007), Goodwin-Stewart and Kent (2006), Nasibah (2015) and Van der Schyf (2000). For example, George et al. (2015) examine the factors of internal audit effectiveness in Greece, finding that internal audit effectiveness is influenced by the quality of the internal audit, competence of the internal audit team, independence on the part of internal auditors, and top management support.

Similarly, Mihret and Yismaw (2007) explore the factors of internal audit effectiveness in Ethiopia and find management support and the quality of internal audit as the major drivers of internal audit effectiveness. However, there is no complete framework for determining the essential factors that contribute to the effectiveness of internal audit. This study considers two groups of factors to provide a comprehensive framework to examine the external and internal factors impacting internal audit effectiveness using resource-based theory. By exploring the impact of external factors such as top management support, organisational culture, and independence of internal auditors and the impact of internal factors such as motivation of internal audit staff, size of the internal audit team, utilisation of IT and competence of internal auditors on internal audit effectiveness in Saudi Arabia, this study also extends prior research that has examined the factors of internal audit effectiveness.

Furthermore, little research has been done on internal auditing and the drivers impacting its effectiveness specifically in the Saudi context and none of these studies address the two groups of factors (internal and external) impacting internal audit effectiveness (Al-Mohaimed 2000; Al-Twajjry et al. 2003; Alzeban & Gwilliam 2014; Alzeban & Sawan 2013). However, unlike other previous studies, this study uses the resource-based theory to explore external and internal drivers of internal audit effectiveness and find that strategic resources and capabilities are the most significant drivers of internal audit effectiveness in the Saudi Arabian public sector. This is also one of the first studies to account for organisational culture, motivation of internal audit staff, and utilisation of IT as variables in the Saudi public sector. Using these variables adds different flavours and provides more insights that can help organisations and researchers as it contributes to the body of IAF related research that focuses on the public sector and organisation in Saudi Arabia.

Further awareness of the functions of internal auditing is required in the Saudi public sector since other departments in organisations can have negative perceptions of the efficiency and effectiveness of internal audit departments. The present study suggests that the low effectiveness of internal audit in the Saudi public sector could stem from external and internal factors that impact the effectiveness of internal audit. Therefore, the effectiveness of internal auditing will be enhanced by improvements to these factors. Further, this study is expected to provide a rich understanding of the practices that impact

the effectiveness of internal auditing in the Saudi public sector, which has particular characteristics related to its environmental context. Additionally, another way this study adds to the body of research is by utilizing the mixed-method approach of quantitative and qualitative approaches to develop a broader understanding of the outcome. By taking into account qualitative and quantitative approaches, value will be added to the IAFs related body of research because the outcomes of this study will be more detailed as compared to taking a single approach.

Some Saudi government organisations have so far failed to comply with Resolution No 235 requiring the establishment of internal audit departments. Reviewing the literature in the Saudi context showed that there is a lack of research on this topic. Hence, this study is expected to contribute to existing literature by addressing the reasons why many Saudi government organisations have failed to establish internal audit departments. Although numerous studies have thoroughly investigated the factors affecting the establishment of internal audit departments in the public and private sectors of Western countries as well as few developing countries, the specific factors influencing the establishment of IAFs in the Saudi public sector remain unexplored (see Chapter 3).

Further, on a practical note, the findings of the study could be useful to other countries, especially developing nations, all Arab countries and the Middle East, in addressing issues of internal audit ineffectiveness given that the internal audit departments of these countries are fraught with challenges. The present study also provides recommendations for improving internal audit effectiveness in government and regulatory institutions in the Saudi public sector.

## **1.6 Research Method**

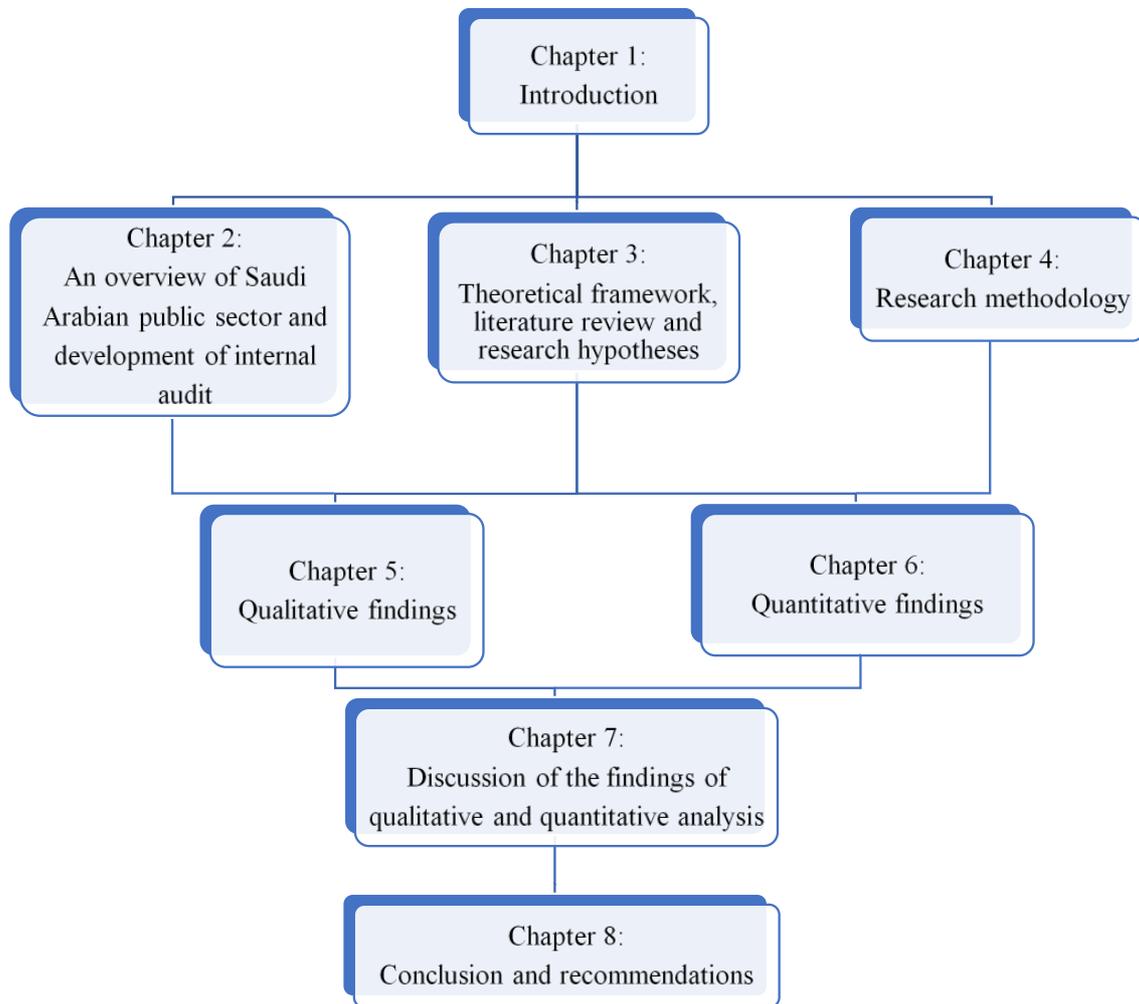
This study used a mixed methods approach consisting of qualitative and quantitative techniques for gathering the data. A qualitative approach is based on subjectivism, with the researcher attempting to interpret and make sense of phenomena (Creswell 2013). A quantitative approach is based on objectivism and follows the positivist worldview to control variables and examine specific hypotheses (Khanal 2014).

A total of 36 face-to-face semi-structured interviews was conducted to collect data and to obtain a better understanding of the participants' views on the nature of internal audit and

of the issues impacting the effectiveness of this function in the Saudi public sector. Specifically, 24 semi-structured interviews with 12 managers of internal audit units and 12 internal audit employees were conducted to identify the nature and extent of the impact of external and internal factors on the effectiveness of internal audit. Interviews were also held with 12 external auditors (who work for the GAB) to clarify the issues relating to the absence of established internal audit departments in some Saudi organisations. Further, a questionnaire was sent to Saudi public sector organisations with an established internal audit department. The questionnaires were distributed to 150 internal audit managers and 150 internal auditors of the same entities in the Saudi public sector which are subject to audit via the General Accounting Bureau (GAB). These questionnaires sought to examine the external and internal factors (independent variables) impacting internal audit effectiveness (dependent variable). Of the 300 questionnaires sent out, 290 valid responses were received (145 responses from managers of internal audit units and 145 from internal audit staff).

## **1.7 Structure of the Thesis**

The remainder of the thesis is divided into eight chapters including this introductory chapter. The relationships between the chapters of the thesis are depicted in Figure 1.1 below.



**Figure 1.1: Structure of the Thesis**

**Chapter 1:** This chapter begins by establishing the importance of the internal audit function in public bodies. The background of the research problem is presented and the research aims and objectives are clarified. The research questions are developed based on the aim and objectives of the study. Further, the chapter describes the study contribution to knowledge and to the existing body of literature as well as the enhancement of the internal audit function in the Saudi public sector. The chapter also identifies the research methods used in the study.

**Chapter 2:** This chapter details internal audit effectiveness as practiced in the Saudi public sector, outlining the development of the public sector in the KSA. Further, background is provided on the operation of the legal system and the GAB. The chapter

also provides an overview of the development of internal audit in Saudi Arabia and the regulations for the establishment and enhancement of internal audit in the Saudi public sector.

**Chapter 3:** This chapter reviews the relevant academic and professional literature on internal audit effectiveness to provide an extensive background to the research. It begins with the theoretical framework and draws on resource-based theory. Moreover, it considers the internal audit function and its role in organisations as well as the effectiveness of this function. Further, the chapter explores prior studies regarding internal audit effectiveness in developed and developing economies, in addition to the Saudi Arabian public and private sector. External and internal factors that influence internal audit effectiveness are discussed.

**Chapter 4:** This chapter focuses on the research methods used in the study. The chapter presents the research design and the research approach. The procedures for both the interview and questionnaire methods are then addressed. The pilot study is also described. The chapter outlines how the external and internal factors (as independent variables) and internal audit effectiveness (as a dependent variable) are measured, based on the perceptions of the managers of internal audit and internal audit staff.

**Chapter 5:** In this chapter, the results of the semi-structured interviews are presented. The interview participants are the managers of internal audit departments, internal auditors and GAB employees who are external auditors in the Saudi public sector. The interviewees comprise 36 individuals, who are employed in the public sector, consisting of 12 managers of internal audit departments, 12 internal auditors and 12 external auditors of the GAB.

**Chapter 6:** This chapter presents the results of the questionnaires. The primary data collected through questionnaires are presented, summarising the findings gathered from the respondents: 145 managers of internal auditors and 145 internal auditors in the Saudi public sector.

**Chapter 7:** This chapter discusses the findings of the qualitative analysis presented in Chapter 5 and the quantitative analysis presented in Chapter 6. The chapter also answers the research questions stated in Chapter 1. This chapter is divided into five sections: (i) external factors impacting internal audit effectiveness, (ii) internal factors impacting

internal audit effectiveness, (iii) a revised model of the study, (iv) factors hindering the establishment of internal audit units and (v) a short summary.

**Chapter 8:** The final chapter presents the main conclusions, focusing on the findings of the study, the contributions of the study and the recommendations of the study. The chapter identifies the limitations of the study and presents reflections on future research.

## **1.8 Conclusion**

The importance of internal audit has been widely recognised in Western countries within the public and private sectors. Although several studies have been conducted on the effectiveness of internal audit in developed and developing nations, in the Saudi Arabian context such studies are rare. The Saudi Arabian government is directing its efforts at the establishment and development of internal audit departments in all public-sector organisations to save public money and prevent corruption. Internal audit in Saudi Arabia has, for the most part, been limited to accounting and its related proprietary transactions. Legal requirements for internal audit were non-existent in Saudi Arabia until 2004, when Resolution No. 235 was passed. Prior to this, internal audit was not established nor thoroughly developed in the country.

This introductory chapter provided a brief background of the study, which included an explanation of internal audit. The chapter discussed the research problem and presented the aim and objectives of the study. It also identified the research questions, indicated the study's contribution to knowledge, the study significance as well as the research method employed. The chapter concluded with a summary of the study structure. The following chapter presents an overview of the Saudi public sector and development of internal audit.

## **Chapter 2: Overview of the Saudi Public Sector and Development of Internal Audit**

### **2.1 Introduction**

This chapter begins with an overview of Saudi Arabia, the development of its economy and the Saudi public sector. It also describes the external control processes in the Saudi public sector through the Ministry of Finance (MoF), the General Accounting Bureau (GAB) and the Control and Investigation Board (CIB). The chapter then tracks the development of internal audit in Saudi Arabia and certain regulations for the establishment and enhancement of internal audit in the public sector. The role of the Saudi Organisation for Certified Public Accountants (SOCPA) is clarified, followed by an account of the establishment and development of the Institute of Internal Auditors in Saudi Arabia. Finally, the chapter provides an overview and conclusion.

### **2.2 Kingdom of Saudi Arabia**

The official name of the country is the Kingdom of Saudi Arabia (KSA) and it is widely known as Saudi Arabia. The official language used in the country is Arabic, which is generally spoken in the public sector (Al-Ruithe 2018). Saudi Arabia is the one of the largest countries in the Arabian Peninsula. The system of the Saudi Arabian government is an Islamic monarchy and the public sector is governed by a royal family. There was a slight change in the governing system in 2004 when domestic council elections at a local level were established (Al-Shehry 2009).

### **2.3 Economy of Saudi Arabia**

Saudi Arabia has a remarkable economic history and background. It is predicated on the detection of oil in the 1930s and Saudi Arabia is one of the largest oil suppliers in the world (Alzeban & Gwilliam 2014). Moreover, the economy of the country is distinguished by several dominant state-owned enterprises in the field of petrochemical production (Alzeban 2010). Oil production was estimated to represent more than 72% of the Saudi Arabian government revenue in 2018 with the remaining percentage of non-oil government revenue coming from petrochemical exports (Ministry of Finance 2018).

Government expenditure allocated for merchandise, services, staff salaries and wages is dependent on the distribution of oil revenues. The government of Saudi Arabia has established the need to increase salaries and wages for government jobs in an attempt to use public sector as a means of distributing and sharing public wealth. Consequently, the spending ratio of salaries, wages and allowances reached 50% of the recent approved budget for expenditures. The discovery of oil in the region helped to develop infrastructure in certain areas of the country and increase the standard of living for many nations. Moreover, it has minimised the role of the private sector, which was largely dependent on public sector procedures and budget plans. The public sector has played a central role in the economic activities of the KSA for many decades (Al-Dehailan 2004; AlMadani,2018).

## **2.4 Saudi Arabian Culture**

Saudi Arabian culture is defined by its religion and a tribal system. Historically, this country has accomplished a unique place in the Islamic world, because the Two Holy Mosques and the home of the Prophet Muhammad are located within its borders. Saudi Arabia is viewed by many to be the core of Islam and is an important leader in the Arab and Islamic world (Commins 2015). According to Henderson (2011), the global community of Muslims, which is comprised of approximately one billion people from different races and cultures, face Makkah—which is in Saudi Arabia—for prayers five times a day.

For this reason, Islam is the foundation of Saudi Arabian culture and has played a fundamental role in defining the culture (Alzeban 2015). Moreover, the Islamic religion serves as the prime power in determining several societal characteristics, such as norms, patterns, customs, responsibilities, privileges and practices. It is worth noting that Islam is not the sole religious ideology within the kingdom, but it nevertheless provides comprehensive structures that include several detailed prescriptions for the Saudi Arabian way of life. Islam provides values and principles that encourage everyone to make the best possible decisions that will not negatively impact the lives of other people (Ebnmhana 2018).

The tribal system is the second distinguishing feature of Saudi culture. Even though the kingdom is comparable to many other countries that have a solid monarchy and tribal customs, numerous components of these customs are observed under current socio-economic realities. An individual's relationship and association to the fraternity or tribe influences their place in Saudi society and affects their perceived success or failure in old and new spheres of activity. Moreover, the tribal system and resulting ethnic structure are visible throughout the country (Alhazmi & Nyland 2010; Alzeban 2015a).

Compared to Western countries, the Kingdom of Saudi Arabia has a distinctive cultural and institutional setting. Vassiliev (2001) argued that an amalgamation of the modern and traditional aspects of Western and Arabian cultures will prove to be a challenge, especially due to the uniqueness of Saudi Arabia's socio-political and economic model; from a general point of view, the role of Saudi Arabia in the spheres of Islam, finance and oil is indispensable to the world. Alzeban (2015) further argued that even though Saudi culture is fairly homogenous, the Islamic religion plays a predominant role in decision-making and has a significant impact on legal practices within the public sector.

## **2.5 Saudi Public Sector**

In the KSA, the organisations that comprise the public sector exist in a diverse setting which makes it difficult to identify particular characteristics of the public sector using Western governance and public sector principles. Generally, the public sector refers to a group of organisations which form the central and local governments aimed at meeting the needs of citizens (Budding, Grossi & Tagesson 2014). According to Jones and Pendlebury (2000), the organisations operating in the public sector are characterised by varying social, economic, political and legal features, preventing them from functioning as a homogenous group. Other differences between the organisations operating in the public sector have been identified as variations in responsibility, different levels of accountability, diverse objectives, organisational structure and sources of income. Over the years, the developmental changes observed in the public sector can be attributed to pressure changes, historical background and resources.

In the case of Saudi Arabia, the significant features of the public sector are diversity and its vast size. The public sector in the KSA is divided into several categories: government ministries, independent bodies, local government and public institutions (Al-Dhowaihy

2003). Each category is associated with particular responsibilities, influence and accountability. Regarding the government ministries, 23 Saudi Arabian ministries can be identified as major influencers in the public sector. The factors contributing to their enormous influence are dominance and power. However, their level of influence is not as extensive as that of the Council of Ministers.

In addition, independent bodies contribute to the Saudi public sector in the areas of finance and accounting, just like the ministries. However, both institutions have different approaches to accountability, hence these independent bodies cannot be classified as ministries. Moreover, each local government (emirate) is headed by a governor who has several responsibilities to meet the developmental needs and challenges in the region of the country. Another government group known as public institutions, refers to all institutions that provide both services and benefits to the public (Niblock & Malik 2007).

In this study, the focus is on the approach of ministries, independent bodies, local government and public institutions with regard to internal audit effectiveness. It is mandatory for 100% government-owned organisations to undergo a compulsory audit by the GAB. These organisations receive an annual budget by the government. In Saudi Arabia, government organisations are commonly known as the ‘public sector’ or the ‘government sector’. They function under the leadership of a president or minister chosen by royal decree. The activities of these organisations, which include ministries, independent agencies, local government and public institutions, are controlled by government regulations (Alzeban 2010). The categories of government organisations are discussed below.

### **2.5.1 Government Ministries**

In the government structure, the ministries are regarded as important organisations in terms of their level of influence and power. Ministries were created mainly to offer social and economic services to the public (Al-Dehailan 2004). The development of the KSA started in the early 1970s; this marked a period when the Saudi government acknowledged its role in achieving the requirements for economic growth (Al-Dehailan 2004; Al-Mohaimed 2000; Alzeban 2010).

As noted by Al-Mohaimed (2000), KSA are categorised into three sectors, based on their function. The Sovereign Affairs Sector, which comes first, encompasses the Ministry of

Justice, the Ministry of Foreign Affairs, the Ministry of Defence, the Ministry of the National Guard and the Ministry of Interior. Second on the list is the Services Sector. This comprises many ministries such as the Ministry of Health, the Ministry of Education, the Ministry of Transportation, the Ministry of Communications and Information Technology, the Ministry of Media, the Ministry of Housing, the Ministry of Haj and Umra (pilgrimage), the Ministry of Islamic Affairs, Dawah and Guidance, the Ministry of Culture, the Ministry of Labour and Social Development, the Ministry of Civil Service and the Ministry of Municipal and Rural Affairs. The ministries in the third sector, also referred to as the Development Sector, include the Ministry of Finance, the Ministry of Commerce and Investment, the Ministry of Economy and Planning, the Ministry of Energy, the Ministry of Industry and Mineral Resources and the Ministry of Environment, Water and Agriculture.

### **2.5.2 Independent and Quasi-independent Government Departments**

Existing alongside the ministries are independent and quasi-independent agencies, functioning directly under the control of the King and the Council of Ministers. These bodies are autonomous organisations that have been established to achieve particular government objectives that cannot easily be accomplished through the ministries (Al-Mohaimed 2000). In terms of size, these agencies are notably smaller than ministries and have more decentralised structures. These features make it possible for independent agencies to accommodate versatile functions and achieve goals. The highest position in the independent and quasi-independent agencies is occupied by the president whose authority oversees financial and personal issues, similar to the hierarchical setting found in ministries (Alhazmi & Nyland 2010). Agencies falling under this category include the GAB, the Grievance Bureau, the General Presidency of Youth Welfare and the Control Board. The structure of these agencies is characterised by precise roles and clearly defined objectives (Al-Dehailan 2004).

### **2.5.3 Local Government**

In 1939, the Emirates (Regions) Act was enacted. The objective of the Act was to introduce an organised system to manage local areas in Saudi Arabia. Consequently, the country was divided into eight emirates, with an *amir* (governor) appointed to head each emirate. The promulgation of the General Personnel Act of 1944 led to the formal

articulation of the governor's functions and responsibilities. Through the Act, the position of an administrative governor and central government representative was designated. The administrative governor, who directly reported to the Interior Minister, was responsible for maintaining law and order and managing the affairs of the different ethnic groups in the villages within the boundaries of the emirate (Al-Dehailan 2004; Alzeban 2010).

The constitutional package of 1992 included the last provincial regulation, which was later reviewed by Royal Order No 1/21 of 1994. However, the existence of certain similarities between new and existing regulations suggests that the new regulations may only be a slightly modified version of the previous provincial regulations (Al-Mohaimed 2000). Under the new Act, there were plans to reorganise local governments in the country and provincial regulations were introduced to modify the governance system. According to these new regulations, Saudi Arabia was divided into 14 administrative regions; however, their geographical boundaries were not clearly defined. The administrative structure of each region is characterised by governorates, districts and centres. This structure was created after considering factors such as demographics, geography, security, environmental conditions and transportation in different regions (Al-Dehailan 2004; Alzeban 2010).

#### **2.5.4 Public Institutions**

Public institutions were established as a platform to channel services and benefits directly to the public (Al-Dehailan 2004). A royal decree is used to confirm or terminate the appointment of the president or director of the institution. It has been noted that particular similarities and differences exist between public institutions and other government organisations. However, these are collectively owned and sponsored by the government through annual budgets. Further, public institutions are mandated to undergo an audit by the GAB. The policies and regulations that guide their operations are in line with the general guidelines specified by the government with the aim of accomplishing the country's development plans. Public institutions have different sources of funds and they also receive some funding from the government. Some of these institutions have established financial and employment regulations exclusively for their institutions (Al-Mohaimed 2000).

## **2.6 External Control of the Saudi Public Sector**

The scope of discussion is restricted to the external control of public sector organisations under the government such as the MoF, the GAB and the CIB. The primary objective of these organisations is to ensure that government agencies adhere to proper standards and guidelines regarding revenue generation and management, expenditure, entry documentation, executing projects, controlling stocks and managing movable and permanent public properties. It is also the responsibility of these agencies to monitor all procedures to ensure they comply with regulations. Furthermore, the agencies are also concerned with performance monitoring activities to ensure the objectives and policies for which the government agencies were established are achieved. In addition, the agencies identify and implement correctional measures to improve operational systems and procedures through which the government agencies can perform effectively (Al-Mohaimed 2000; Alzeban 2010). The following sections focuses on the roles and functions of the MoF, the GAB and the CIB.

### **2.6.1 Ministry of Finance**

In Saudi Arabia, the MoF is the first external control and it plays several governance roles in the Saudi public-sector organisations. The MoF was the second ministry to be established. It began as the General Directorate of Finance, a single entity established in 1927, under the instruction of the Kingdom of Hejaz, acknowledging the need to manage financial concerns by a financial directorate. The MoF was given authority over the financial affairs in the Kingdom of Hejaz and Nejd in addition to other subsidiaries. The MoF's (2018) responsibilities, as summarised below, are to regulate and secure the collection of state funds and to manage expenditure:

1. Identify and recommend public financial policies and plans to support stability, economic growth and sustainability of government resources. Propose strategies to use these policies and plans efficiently, supervise implementation, coordination and integration with suitable monetary and structural policies, in line with approved development plans and strategic objectives regarding the general state policies.
2. Maintain a consistent effort to develop financial, tax and custom systems. Oversee the implementation of the systems needed to improve and secure the government's

financial system, increase capacity to achieve efficiency and create a competitive and stable financial environment.

### **2.6.2 General Accounting Bureau**

The GAB is the second external control and it plays a significant governance role in Saudi public-sector organisations. Before 2019, the General Accounting Bureau was called or known as the General Audit Bureau (GAB 2020). The GAB was constituted in 1953 and was declared an independent institution in 1971, following Royal Decree No. 9/M. GAB authorities report directly to the Prime Minister (Al-Mohaimed 2000; Alzeban & Gwilliam 2014). The functions of the GAB are summarised below:

1. Ascertain that the state's entire revenue and entitlements such as movable and fixed assets and services are documented. Confirm that state expenditure has been declared according the provisions of the annual budget and that administrative and financial regulations apply.
2. Ascertain that state assets are used as intended, in line with the purposes for which they were procured by the related agencies and that processes are followed in accordance with proper safety standards. Prevent state assets from being misused or used for unofficial purposes that are not aligned with the intended purposes.
3. Ensure that authorities comply with the GAB's measures to implement proper financial and accounting rules and regulations, in accordance with institutions' by-laws and ascertain that financial processes conform to applicable rules and regulations.
4. Monitor financial and accounting rules and regulations to confirm compliance, efficiency and adequacy, in line with the country's public administration, while identifying lapses in the system. Present proposals for the adoption of suitable solutions or modification of existing rules and regulations.

The state's provisions permit the GAB to create its own executive regulations. However, these regulations are only applicable when approved by the King, who holds the position of Prime Minister (Alzeban & Gwilliam 2014). The organisations operating in the public sector that are audited by GAB are defined in the Saudi constitution as: 1) ministries, government departments as well as the branches associated with them; 2) municipalities, management of water springs and water departments; 3) agencies operating in the public

sector, alongside other departments which have independent budgets receiving contributions from the government in the form of investment of subsidies; 4) companies and establishments whose capitals are guaranteed a minimum profit or provided contributions by the government; 5) and all other authorities controlled by the GAB through the commands given by the Prime Minister or based on the decisions of the Council of Ministers. The Council of Ministers requested that the GAB assume the responsibility of establishing internal audit departments in every organisation in the public sector. Cabinet Decree No. 235, which was issued in 2004, mandated that all relevant institutions put an internal audit department into place (Alzeban 2010).

### **2.6.3 Control and Investigation Board**

The Control and Investigation Board (CIB) is the third external control and it plays some governance role in the Saudi public-sector organisations. The CIB has control roles to ensure that the executives of government entities are acting at the best level. The CIB is directly accountable to the King of the country and the Council of Ministries (Alzeban 2010). The authority exercised by the CIB was attained through Royal Decree No. M17 of 1971 which ratified the Employees Disciplinary Law (Al-Mohaimed 2000), as stated below:

In accordance with this Act, an independent organisation is to be established and to be called: The Control and Investigation Board. It is directly affiliated with the Cabinet's president.

Based on this law, the CIB assumed responsibility for overseeing and investigating issues of the state. The goal was to apply a complementary approach to examine administrative and financial misconduct without contradicting the GAB's authority. The particular responsibilities of the CIB (Al-Dehailan 2004; Al-Mohaimed 2000) are summarised as follows:

1. Exercise control to reveal administrative and financial misconduct. This includes investigating related complaints received from ministers or authorised official departments.
2. Investigate administrative and financial misconduct discovered by the officers in charge of agencies where corruption is suspected.
3. Supervise lawsuits transferred to the Employees Disciplinary Council.

## **2.7 Development of Internal Audit in Saudi Arabia**

Previously, there was no initiative by the government to promote internal audit and new developments in this area have only occurred in recent years. When internal audit was introduced, the Saudi Organisation for Certified Public Accountants (SOCPA) was not actively involved in promoting IA. Efforts to encourage internal audit were promoted by the establishment of the IIA, with chapters set up in Dhahran in 1982, in Jeddah in 1992 and in Riyadh in 2000 (Al-Twajjry et al. 2003).

The Dhahran chapter was created with the main objective of encouraging more people to join the IIA. This chapter, which functions within Aramco, a state-owned company, has focused on promoting best practices and disseminating information via newsletter. The chapter is affiliated with the King Fahd University in Dhahran and had 75 members as at 2000; about a quarter of these are Saudi nationals. The chapter encountered two major issues—inadequate resources and legal restrictions on its activities (Al-Twajjry et al. 2003; Alzeban & Gwilliam 2014).

Since its establishment, the Dhahran chapter's responsibilities include the supervision of Certified Internal Auditor (CIA) examinations; these are compulsory exams written by internal auditors in the region to become qualified CIAs. The chapter manages the exams twice a year. The number of people who have taken the exam has increased over the years. Currently, approximately 35 candidates take the examinations at a time. More Saudi Arabian nationals have become interested in taking these examinations, with their number steadily rising to approximately 35%. Very few candidates pass the CIA exam on their first attempt; indeed, statistics from 1996 to 2000 indicate that only six candidates passed this exam on their first attempt. These examinations have significantly contributed to the development of internal auditing in Saudi Arabia. However, there have been expressed over the low pass rate. According to the chairman of the Dhahran chapter, this is because challenges such as language comprehension and the highly technical nature of the examinations. To resolve this issue, it has been recommended that the examination be translated into Arabic (Al-Twajjry et al. 2003; Alzeban & Gwilliam 2014).

The Jeddah chapter was formed in 1992 by the internal audit department within the Saudi Arabian Airline Corporation. The primary objective of the chapter as to promote internal auditing of Saudi Airlines. Subsequently, the chapter expanded its activities to serve other

companies in the Jeddah area. Over the years, membership increased significantly thanks to its affiliation with the Accounting Department at the King Abdul Aziz University; many of its new members were academics and students from the university. In 1994, the chapter was acknowledged with an award for the fastest growth in the globally recognised IIA, at which point 110 new members joined the chapter. However, during its expansion, the chapter encountered some challenges with government restrictions preventing the chapter from establishing a formal organisation. In Saudi Arabia, it is mandatory to obtain permission before establishing a formal organisation. In 1997, the chapter was closed because of its inability to secure the required executive permissions (Al-Twajjry et al. 2003; Alzeban & Gwilliam 2014).

The Council of Ministers recently approved a Memorandum of Cooperation between the SOCPA and the IIA. This memorandum addressed issues such as the need for an IIA to be established in Saudi Arabia. Consequently, the SOCPA formed an Internal Audit Committee to supervise the project. A proposal to establish the institute was submitted by the Internal Audit Committee in August 2009. The board of SOCPA received and subsequently approved this proposal, which was then referred to the Council of Ministers for final ratification. The efforts to establish a professional internal audit function in the country were sustained for a period of 35 years. Eventually, in February 2011, the Council of Ministers passed a resolution to establish the IIA in Saudi Arabia (Alzeban & Gwilliam 2014; Alzeban & Sawan 2013).

### **2.7.1 Regulations for the Establishment and Enhancement of Internal Audit in the Saudi Public Sector**

Internal audit regulations were recently established in the Saudi public sector to oversee the use of public funds by government organisations. According to the recommendations presented by the GAB (whose responsibilities include financial monitoring), all organisations subject to its audit are required to have internal audit departments. This recommendation was acknowledged in 2004 with the issue of Cabinet Decree No. 235, which mandated all related organisations to establish internal audit departments (Alzeban & Sawan 2013). Following the Cabinet Decree (2004), five crucial issues were identified in the Saudi public sector:

1. The GAB, in collaboration with the MoF and the SOCPA, is required to develop a government accounting system.
2. Mandatory requirements oblige all organisations to be subject to GAB audits and to establish internal audit departments, with the head of department reporting directly to the highest official in the organisation to protect assets and public resources.
3. Government organisations are required to upgrade from the traditional use of paper for recording to the use of computers for financial management and record-keeping.
4. Every organisation subject to GAB audits must fully cooperate with the Bureau to implement corrective measures based on GAB's findings and recommendations.
5. The need to increase the budget allowance for employee training and skill development programs in the GAB and government organisations. This is recommended to improve the qualifications of individuals to increase productivity.

According to Alzeban (2010), Cabinet Decree 2004 was issued for the following reasons:

1. to reduce corruption and the occurrence of errors, irregularities and loopholes for fraud in government organisations;
2. to improve poor internal control systems which are in need of development;
3. to address issues such as the increasing number and size of government organisations, the rise in public expenditure and the challenges of monitoring transactions that have become more complex;
4. to address challenges facing the GAB such as inadequate funding and lack of skilled staff, that prevent it from effectively carrying out its monitoring activities in the public sector;
5. to counter the reluctance of organisations, found to have consistent irregularities and errors in their records, to implement corrective procedures and improve performance;
6. in response to a request by the International Organisation of Supreme Audit Institutions (INTOSAI), to create internal audit units in government organisations; and

7. to ensure that the GAB acknowledges the need to develop and protect public assets and resources.

To establish proper regulation of the internal audit function, Cabinet Decree No. 129 was issued in 2007. Alzeban and Sawan (2013) indicate that a series of steps was taken to draft the regulation before it was finally approved and published by the Cabinet in 2007. These steps are as follows:

1. Following the issuance of Cabinet Decree in 2004, the president of the GAB formed a committee responsible for issuing an internal audit regulation (IAR) in collaboration with the Institute of Public Administration (IPA); this led to the issuance of the first draft of the regulation in May 2005.
2. In October 2005, the King requested the GAB to review the regulations to include collaboration with four organisations—the CIB, the MoF, the IPA and the MCS.
3. The second draft was released in March 2006; it was subsequently presented to the King who reviewed it and referred it to the Bureau of Experts at the Council of Ministers.
4. The final draft of the regulation was released in 2007, following the issuance of Cabinet Decree No. 129.

## **2.8 Saudi Organisation for Certified Public Accountants**

The SOCPA was established under Royal Decree No. M/12 in 1992. The organisation reports to the Ministry of Commerce and Investment, under which it functions. The SOCPA has a crucial part to play in the provision of high-level guidance and financial expertise to support professionals and other organisations. The primary objective of the SOCPA is to promote economic stability in Saudi Arabia through the following actions (Saudi Organisation for Certified Public Accountants 2018):

1. to review, improve and approve accounting standards;
2. to review, improve and approve auditing standards;
3. to establish guidelines for the fellowship certificate examination (CPA exam) as well as promote regulations related to the professional, practical and scientific areas in the audit profession;
4. to implement a system which includes continual educational programs;

5. to establish a standard review program to ensure that certified public accountants adhere to professional standards in compliance with the provisions of the Certified Public Accountants Regulations and associated by-laws;
6. to organise relevant research and studies related to accounting, auditing and other areas;
7. to publish periodicals, books and bulletins in the areas of accountancy and audit; and
8. to play active roles in local and international committees and symposiums related to the accounting and audit profession.

## **2.9 The Saudi Institute of Internal Auditors**

The Saudi IIA is a professional institute established under Resolution No. 84 which was issued by the Council of Ministers on 28 February 2011. The institute is a non-profit affiliate of the IIA and is supervised by the Ministry of Commerce and Investment. In Saudi Arabia, the Saudi IIA is governed by a board of directors, many of whom are internal audit experts based in the country. As a non-profit organisation, the Saudi IIA's main objective is to improve and promote the internal auditing profession in Saudi Arabia. The IIA in Saudi Arabia is also recognised as part of an international network representing the body of internal auditors globally. The goals and objectives of the institute are as follows (IIA 2017):

1. to establish international internal audit standards, professional ethics and other professional guidelines associated with internal auditing as issued by the International IIA (IIIA);
2. to create and improve guiding materials and manuals and to provide resources and information related to internal auditing;
3. to organise IIA professional certificate examinations;
4. to develop and implement internal auditing-related training programs, ongoing professional education programs and to offer diploma courses to promote scientific and professional standards of internal auditors, issuing the appropriate certificates;
5. to provide technical support to improve work quality in the area of internal auditing and to provide opportunities to improve professional performance;

6. to organise studies on regulations, rules and standards in the area of internal auditing and to offer suggestions on these processes to related agencies;
7. to organise conferences and professional meetings on internal auditing in view of analysing applicable regulatory procedures; and
8. to improve relations with internal auditing firms within and outside the KSA to form collaborations exploring common areas of interest.

The IIA is the only institute mandated to award the globally recognised Certified Internal Auditor (CIA) certification to deserving candidates. The certification exam is divided into three parts. This is a standard approach used to comprehensively assess the competencies and professionalism of individuals in the field of internal auditing (IIA 2017). CIA certification exams are organised globally in 20 different languages. Benefits of having CIA certificate include improved proficiency in communicating knowledge, skills and competencies to effectively perform professional tasks related to audit in any part of the world. These benefits can be summarised as follows:

1. recognition as a credible and trusted internal auditor;
2. reputation as an authority in the field of internal auditing with the proficiency to apply international standards while carrying out professional internal auditing tasks;
3. increased competency as a professional with an added knowledge of organisational governance; and
4. increased commitment to the internal auditing profession and acquiring the knowledge needed to take advantage of career-advancing opportunities.

## **2.10 Conclusion**

In this study, the focus is on the approach of ministries, independent bodies, local government and public institutions with regard to internal audit effectiveness. The chapter started with a background of the KSA and an overview of the Saudi public sector. A description was then provided of the external control procedures in the public sector, as exercised through the MoF, the GAB and the CIB. The chapter provided details of the development of internal audit in Saudi Arabia and regulations for the development of internal audit in the Saudi public sector. The function of the SOCPA was explained as

well as the establishment of the IIA in Saudi Arabia. The next chapter presents the theoretical framework, literature review and research hypotheses.

## **Chapter 3: Theoretical Framework, Literature Review and Research Hypotheses**

### **3.1 Introduction**

This chapter reviews academic journals and professional literature on internal audit effectiveness to contextualise the study. It begins with the theoretical framework, drawing on resource-based theory and justifying its use. Particular attention is also paid to the current IIA standards which were developed to ensure effective internal audit. The chapter then provides an overview of the IAF and its role in organisations. Literature is reviewed on internal audit effectiveness in developed and developing economies as well as the Saudi Arabian public and private sectors. External and internal factors impacting internal audit effectiveness are then discussed. A conclusion summarises the main points of the chapter.

### **3.2 Theoretical Framework**

A number of theories have been used in relation to internal audit effectiveness, notably, agency theory (Adams 1993; Endaya & Hanefah 2013; Okodo, Aliu & Yahaya 2019), resource-based theory (Alkebsi & Aziz 2018; Alqudah, Amran & Hassan 2019; Nasibah 2015), transaction cost theory (Endaya & Hanefah 2013; Sarens & Abdolmohammadi 2011), resource dependency theory (Dittenhofer 2001; Goodwin-Stewart & Kent 2006), institutional theory (Al-Twaijry, Brierley & Gwilliam 2003; Endaya & Hanefah 2013; Okodo, Aliu & Yahaya 2019) and Marx's theory of the circuit of industrial capital (Abu-Azza 2012; Mihret, James & Mula 2010). According to Endaya and Hanefah (2013), there is a lack of consensus among researchers on a specific theory associated with the effectiveness of internal audit. There is also limited research on theories that might assist in building an appropriate theoretical framework for internal audit effectiveness.

Nasibah (2015) and Alqudah, Amran and Hassan (2019) propose that resource-based theory could be used to create a theoretical framework for the effectiveness of internal audit. The resource-based theory is particularly useful in this regard because it highlights the importance of the internal resources of an organisation when investigating factors influencing the effectiveness of internal audit. This study applies the resource-based

theory to examine the external and internal factors impacting internal audit effectiveness in the Saudi public sector.

### **3.2.1 Resource-based Theory**

The resource-based theory provides rich insights into an organisation's resources and capabilities and can be applied to study internal audit effectiveness. This study uses the resource-based theory to examine the external and internal factors impacting internal audit effectiveness. There are currently limited studies using this theory in internal audit research (Alkebsi & Aziz 2018; Nasibah 2015). Using the resource-based theory will allow the Saudi public sector to capitalise on effective internal audit to enhance numerous organisational activities and gain a competitive advantage. The resource-based theory also considers the advantages of effective internal audit as a valuable resource in the Saudi public sector. Accordingly, the resource-based theory was used to underpin the study and achieve its objectives.

It is important to first provide an overview of the development of the resource-based theory. Both researchers and practitioners have been striving to comprehend the likely sources of competitive advantage. Most research to date has focused on the internal environment of the firm. Until 1990, both these environments were unquestionably related to the development of the organisation. However, considerable attention was given to the external environment to discern the probable source of competitive advantage (Kazlauskaitė & Bučiūnienė 2008). Further, the resource-based theory was expanding its focus from the external environment of the organisation to include the internal context. Subsequently, the new perception concentrated on both organisational resources and capabilities as an incipient source of competitive benefit (Barney 1991; Grant 1991; Kazlauskaitė & Bučiūnienė 2008).

One of the core assumptions of the resource-based view is that firms are regarded as heterogeneous (Barney 1991). Every organisation can be shown as a unique group of visible and invisible resources and capabilities that are obtained, developed and extended at a later time. The resource-based view highlights the importance of firm resources as determinants of variations in the firm's performance, effectiveness and behaviour. According to the resource-based theory, each organisation must focus on the distinctive attributes that may deliver superior performance and efficiency (Dierickx & Cool 1989;

Prahalad 1993; Wernerfelt 1984). Moreover, as Grant (1991) notes, the resource-based view focuses on the internal, namely, firm-specific elements and their impact on effectiveness. The theory observes organisations as a group of resources that are gathered to produce organisational capabilities. Therefore, competitive advantage is initiated within the organisation, through tangible and intangible assets that are valuable and distinctive (Russo & Fouts 1997).

It is worth clarifying that the resource-based theory has become one of the leading theories in strategic management research as well as other disciplines (Barney 1991). However, there are very few studies using this theory in internal audit research (Alkebsi & Aziz 2018; Mohammad, Afza & Haslinda 2019; Nasibah 2015). This theory emphasises how a firm's strategies link its internal resources with capabilities to create a competitive edge (Akio 2005; Grant 1991). The differences between resources and capabilities is elucidated by Wernerfelt (1984) and Grant (1991), who explain that resources comprise many categories, such as capital equipment, patent, trade contacts, trademark names, finance, efficient procedures, skills of individual employees and in-house knowledge of technology. These categories of resources contribute significantly to the production procedure. Wernerfelt (1984) and Grant (1991) define capabilities as the organisation's ability to convert these types of resources into productive activity. They differentiate between resources and capabilities, with resources viewed as the source of an organisation's capabilities and capabilities viewed as being largely associated with competitive advantage. Therefore, the resources could be shown as a set of organisational strengths and weaknesses (Wernerfelt 1984).

Barney (1991) extends the definition of resources to include assets, properties, capabilities, firm characteristics, organisational procedures, data, skills and knowledge—all of which are shaped by an organisation, allowing it to control processes from the point of conception to executing strategies, thereby promoting efficiency and effectiveness. The resource-based theory visualises the firm as a bundle of resources amalgamated to achieve maximum competitiveness (Beam 1995). According to Barney (1991), resources are regarded as the backbone of any organisation and can be classified three distinct categories: organisational capital resources, physical capital resources and human capital resources. Organisational capital resources include items such as formal reporting structures, monitoring and managing systems, planning and the informal connections

between groups from within the organisation as well as other organisations in its environment. Physical capital resources include equipment, geographic location, access to raw materials and physical technology. Human capital resources comprise training, experience, skill, decision-making ability, relationships and the intelligence of individual managers and employees within the firm.

According to the resource-based theory, organisational resources are undoubtedly the source of competitive advantage. Barney (1991) defines competitive advantage as occurring while a firm is executing its value strategy, which may not coincide with the strategy of any current or potential competitors. In the resource-based view of firms, a competitive advantage can only occur under certain conditions of organisational resource heterogeneity and stability. These propositions distinguish the resource-based paradigm from the conventional strategic management paradigm (Barney 1991).

The idea of competitive advantage within a firm is distinct from sustained competitive advantage in that the latter only occurs if other firms are unable to imitate the benefits of the firm's competitive advantage. Therefore, a competitive advantage is not regarded as sustained until thorough efforts of competitors to duplicate the benefits have been made (Lippman & Rumelt 1982). Barney (1991) points out that there are four important criteria for the firm's resource to ensure sustained competitive advantage: (i) resources should increase in positive value, (ii) resources should be rare or distinctive in relation to current and potential competitors, (iii) resources should be difficult to imitate, and (iv) resources should not be replaced by another resource by a competing organisation.

Firm resources have also been classified as tangible assets, intangible assets and capabilities (Fernández, Montes & Vázquez, 2000; Fahy & Smithee 1999). Tangible assets refer to long-term assets that usually have a fixed long-run capacity and ownership properties, are relatively simple to measure and comparatively uncomplicated to duplicate. Intangible assets include intellectual property that have relatively indefinite capacity and are comparatively hard to duplicate. Capabilities have become more challenging to delineate and are usually described as invisible assets, encompassing the skills of individual employees, organisational procedures and interactions. It is difficult to define intellectual property with any accuracy and even more difficult to duplicate. Generally, as observed by Kapelko (2005), firm resources are classified as tangible and intangible assets or as capabilities, as shown in Table 3.1.

**Table 3.1: Resource Types and Examples**

<b>Resource Types</b>	<b>Examples</b>
Tangible	These are tools and assets that are physically used while carrying out different processes in the firm. They include equipment, geographic location, financial investments and accessibility of raw materials.
Intangible	These are non-physical resources such as reputation, trade secrets, intellectual property rights (patents, registered designs, copyright, trademarks), licences, organisational structure, brand name, customer loyalty, long-term relationships, skill level of employees, distribution channels, company networks, company databases, management structure, formal reporting structure, coordinating systems, official guidelines and procedures, planning structure (formal and informal) and organisational culture.
Capabilities	These include qualities such as advanced innovation, increasing production quality at low cost, managerial decision-making, lean manufacturing, innovative product development, team cooperation, excellent management/employee relationship, financial and human resource management, market research, customer linking, channel bonding, technology watch, cost control, integrated logistics, manufacturing processes, advanced technical and engineering skills, technology development, environmental and workplace safety, pricing, purchasing, strategy and planning, customer service delivery and satisfaction and development of new products and services.

Source: Adapted from Kapelko (2005).

Strategy researchers and practitioners have argued that tangible resources are easily duplicated by rival organisations and are therefore able to provide a fair degree of sustained competitive advantage (Barney 1991; Grant 1991). In contrast, other researchers and practitioners have argued that intangible resources are the main source of sustained competitive advantage. For example, in Malaysia, Bakar and Ahmad (2010) evaluated product innovation performance through a resource-based view and found intangible assets to be the major drivers of product innovation performance. Another study by Osinski et al. (2017) assessed intangible assets and human resource capital in public and private industries. The findings indicated that intangible human resources capital were crucial in obtaining a sustained competitive advantage.

In the case of internal auditing, a recent study carried out by Alkebsi and Aziz (2018) used the resource-based theory to highlight firm resources and the role of internal auditors

in terms of IT use. Organisational resources are regarded as the key pillars in any successful firm, with internal auditors and IT being seen as tangible and intangible resources respectively. The study showed that the resource-based theory promotes a positive relationship between both resources and organisational objectives in reaching a competitive advantage.

The competitive qualities of an organisation depend upon the uniqueness of its resources and the efficiency with which they are used. These resources comprise the internal competencies of the organisation, of which only strategic resources can be considered useful for gaining a competitive advantage (Amit & Schoemaker 1993; Rangone 1999). Therefore, these resources need to be valuable, rare, unique, difficult to imitate and non-substitutable (Barney 1991). An effective IAF that can detect fraud, prevent corruption, provide consulting services, add value, safeguard assets and mitigate risk to organisational performance is bound to be valuable, rare, unique, difficult to imitate and non-substitutable. Moreover, the structure, roles, methods of functioning, reporting, follow-up action by the firm and results, must all be unique. Such types of internal audit are regarded as perfect strategic resources. The organisation uses this valuable resource to improve its operational performance, ensure financial integrity and prevent corruption or fraud from occurring.

### **3.2.2 Justification of Using the Resource-based Theory**

The resource-based theory is crucial in examining to the extent to which internal audit effectiveness is impacted by external and internal factors in the Saudi public sector. Because there are limited theories regarding internal audit effectiveness, this study uses the resource-based theory to build a suitable theoretical framework. This theory helps to examine valuable organisational resources and capabilities ensuring the effectiveness of internal audit. The resource-based theory supports auditing research in developing countries in which internal audit remains underdeveloped (Alkebsi & Aziz 2018; Alqudah, Amran & Hassan 2019; Nasibah 2015).

The resource-based theory is useful when exploring specific external factors that are outside the control of the internal audit department, which may impact the effectiveness of the internal audit process. It is also well-suited for examining internal factors within the department's control that may affect internal audit effectiveness. The resource-based

theory provides the groundwork for the study by focusing on the benefits of effective internal audits, which have been shown to play a crucial role in the public sector; it is also helpful when explaining the capabilities and the strategic resources that are needed for this process.

Due to the manner in which an effective internal audit is able to detect fraud, provide consulting services and add value, this process can be seen as a highly valuable strategic resource. Similar to strategic-management research, which utilises the resource-based theory to explain strategy-related issues, the present study benefits from this theory by asserting that it is feasible for organisations, especially those in Saudi Arabia, to promote several aspects of their activities by capitalising on an effective internal audit strategy. As a result, viewing an effective internal audit as a significant resource allows for a paradigm in which the resource-based theory can be employed to examine the effectiveness and the use of internal audits. For instance, the resource-based theory has been applied by Alkebsi and Aziz (2018) to investigate the relationship between the IT use, top management support and internal audit effectiveness. The authors found a significant positive correlation between the use of IT and internal audit effectiveness. A similar outcome was noted in the relationship between top management support and internal audit effectiveness. The results of their study also revealed that top management support significantly influenced the level of internal audit effectiveness. The resource-based theory provides deeper insight into an organisation's strategy, thereby gaining a more sustainable competitive advantage.

The external and internal factors proposed for this study ensured uniqueness and non-substitutable qualities in the internal audit. The data for this study, which verify some external and internal factors, can be exemplified and interpreted via the resource-based theory. Internal audit effectiveness was the primary focus of the present study; hence, the achievement of effectiveness is the outcome of resource-based strategies. The resource-based theory is useful when exploring specific external factors, such as top management support, organisational culture and independence of internal auditors; these resources are essential for effective auditing practices and can be unique and built into each individual organisational structure, thereby making them difficult to imitate and substitute.

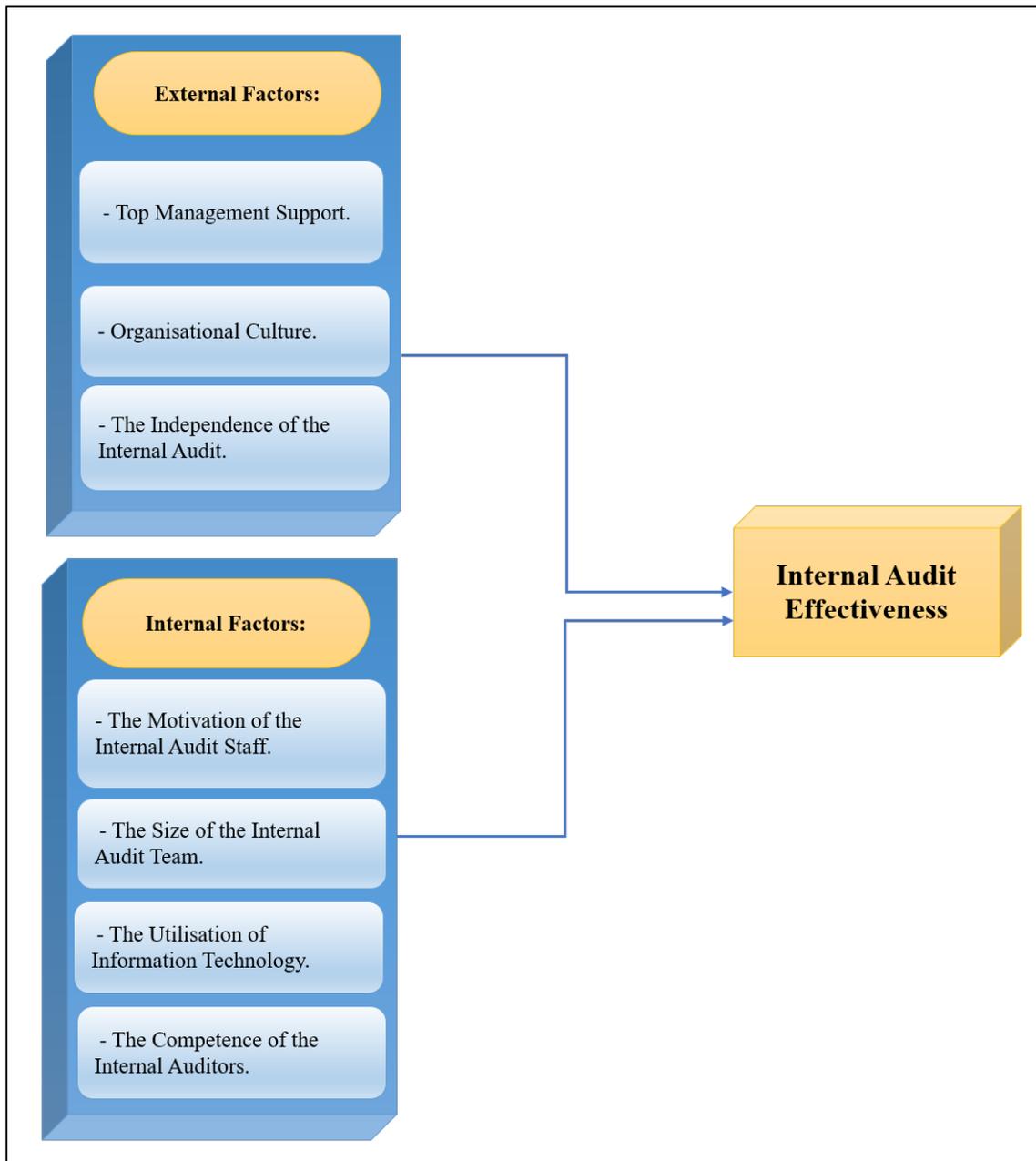
In the present study, top management support was the first external factor that impacted internal audit effectiveness and was shown to be critical to internal audit effectiveness; by using their organisation's tangible and intangible resources to improve the effectiveness of their internal audits, which is in line with the resource-based theory, top management can support the internal audit departments in the Saudi public sector. Organisational culture was the second external factor that affected the internal audit effectiveness in the present study. The specific attributes thereof can boost the efficiency and effectiveness of auditing departments and support a high level of effectiveness in the long-term; moreover, internal audit departments can significantly enhance an organisation's operational performance. Organisational culture is a vital intangible asset that strongly affects the effectiveness of internal audits, which is in accordance with the resource-based theory. The independence of an internal audit was the third, and most important, external factor that impacted internal audit effectiveness in the present study; independent internal audits are an intangible asset that is essential for effective practices and can be unique and built into the organisational structure, thereby making it difficult to imitate and substitute.

The resource-based theory was also used to explore internal factors that are within the control of internal audit departments that affect effectiveness in the Saudi public sector—namely, the motivation of the internal audit staff, the size of the internal audit team, utilisation of information technology (IT) and the competence of the internal auditors. These tangible and intangible resources significantly affect audit effectiveness and can be determined in relation to organisational parameters and the objectives of the internal audit.

The motivation of the internal audit staff was the first internal factor that affected the effectiveness of the present study's internal audits. A resource-based approach suggests that fostering internal audits as a tangible and intangible resource can help an organisation acquire significant success; as such, the organisation should provide incentives to their internal auditors to maintain their motivation. The size of the internal audit team was the second internal factor that impacted internal audit effectiveness in the present study; this factor can be a good determinant of the degree of effectiveness. Consistent with resource-based theory, internal auditing departments must be adequately staffed so team members can effectively perform their duties and enhance organisational performance; sufficient

staff in internal audit departments is a vital tangible resource that influences the effectiveness of an organisation's internal audit department. The utilisation of IT was the third internal factor that affected internal audit effectiveness in the present study; an IAF's success is bound to the available resources and using IT as a strategic tool enhances internal audit effectiveness. The resource-based theory supports the idea that IT should be used to increase an organisation's success and quickly realise organisational goals. Internal auditor competence was the fourth internal factor that affected internal audit effectiveness in the present study; a resource-based theory approach views the competence of internal auditors, who are human resources as an intangible asset, as being influential in internal audit effectiveness. As intangible assets, human resources are the most significant organisational resource; they are a combination of the competence, professional or academic qualifications and experience of all the employees. Therefore, internal auditors with strong qualifications and extensive competency strongly affect operational efficiency and organisational reputation in the Saudi public sector.

Figure 3.1 displays the conceptual model of this study, indicating the relationship between internal audit and three external and four internal factors that impact internal audit based on the resource-based theory.



**Figure 3.1: Conceptual Model of the Study**

### **3.3 The Internal Audit Function and its Role in Organisations**

The fundamental role of internal audit in organisations has driven extensive research in this area. Researchers support the need for a strong IAF in public sector organisations because it adds credibility (Alzeban & Gwilliam 2014; Sobel 2015). Cohen and Sayag (2010) point out that the primary objective of internal audit is to improve the efficiency and effectiveness of a firm's operations. According to Whittington and Pany (2010), internal auditors play a pivotal role in fraud prevention, compliance with regulations and internal control systems in the public and private sector alike.

Asiedu and Deffor (2017) examined internal audit with regard to corruption and fraud in the developing world. They noted that there was little evidence to suggest that internal audit had any impact on corruption, accountability and transparency in the developing world. This demonstrated the need to conduct further research on internal audit as a proxy to help promote transparency, foster a culture of accountability and reduce corruption in developing countries. More importantly, developing countries have unique challenges and settings that call for more research to elucidate how internal auditors can support public organisations in all these respects.

To measure the quality of the IAF, Ridley (2008) explains that the three 'E's, economy, efficiency and effectiveness, can be used for the measurement of the internal audit role'. Ridley (2008) further argues that economy is the measurement of the extent of IAF use of limited resources in performing its tasks. Efficiency evaluates the connection between the performance of the IAF and the resources employed. Effectiveness emphasises the accomplishment of the output of the IAF. In contrast, other studies indicate that despite the economic ability or the efficiency of an IAF, it will be futile if the internal audit is ineffective (Lenz & Hahn 2015; Dellai & Omri 2016).

A meta-analysis by Kwon and Banks (2004) concluded that the auditor's commitment to the organisation is strongly related to the meaningfulness of the job. Internal audit goes beyond the role of functioning simply a fraud detection mechanism. It involves examining and determining internal controls to ascertain their adequacy, assessing the accuracy and appropriateness of financial reports and related records to ensure compliance with rules and regulations and ensuring the effective and efficient use of economic resources at the disposal of management and employees.

As mentioned earlier, internal audit has undergone conceptual changes over time, which have gradually influenced its scope and role (Mihret & Yismaw 2007; Soh & Martinov-Bennie 2011). According to Bou-Raad (2000), internal auditors of the earlier period assumed the role of supervisors of a given organisation's finances, ensuring that all figures were accurate and all accounts were in order. As indicated by Onumah and Yao (2012), the internal auditor would become the eyes and ears of the top management, thereby adding value and improving the procedures of both governmental and non-profit organisations. Further, effective and efficient internal auditors help to establish and

maintain a good reputation for the organisation by providing positive findings and giving productive guidance.

Internal auditors also have a duty to ensure that public funds are distributed and spent in line with the orders of public authorities and that financial statements conform to applicable laws (Alzeban & Gwilliam 2014; Sobel 2015). As noted by Kida and Unegbu (2011), the public sector had limited expectations from the internal auditors, thus, the stated narrow and simplistic view prevailed for an extended period of time compared with the private sector. Therefore, it was not regarded as necessary to improve the existing internal auditing systems, especially in the absence of organisational capabilities such as sophisticated accounting systems.

According to Enofe et al. (2013), internal auditing is meant to produce constructive criticism to help organisations become more efficient. This is in line with Bou-Raad (2000) and Asiedu and Deffor (2017), who assert that internal audit identifies defects, ensures the correction of those defects and prevents corrections from turning back into defects. The implication is that the principal purpose of internal audit is to identify weaknesses and provide possible remedies to those weaknesses. Silva, Inácio and Vieira (2019) summarise the objectives of internal auditing, which can be seen as advantages of strong IAFs: operational effectiveness and efficiency, reliable financial statements, fraud prevention and detection and compliance with rules and regulations. Internal audit is instrumental in ensuring that management achieves its objectives by implementing a sound internal control system that facilitates risk prevention and fraud detection (Petraşcu & Tieanu 2014; Spira & Page 2003).

### **3.4 Internal Audit Effectiveness**

According to the IIA, internal audit effectiveness relates to ‘the degree (including quality) to which established objectives are achieved’. To be effective, the intended target or output must be achieved. According to Tackie et al. (2016), internal audit effectiveness is often viewed in terms of the end results or the achievements of internal audit. It has also been defined as the extent to which the IAF achieves set objectives (Roussy, Barbe & Raimbault 2020). However, to date, internal audit effectiveness has been viewed as a ‘black box’ by many researchers (Endaya & Hanefah 2013; Lenz, Sarens & Jeppesen 2018).

The need to measure and evaluate the effectiveness of internal audits was voiced by different researchers and practitioners (e.g., Coetzee & Erasmus 2017; Erasmus & Coetzee 2018; Mostafa, Hussain & Mohamed 2020; Roussy & Brivot 2016), because these tasks are essential to explain the indicators of internal audit effectiveness; the lack of a ubiquitous general framework was seen as a significant challenge to achieving these functions. Furthermore, a number of measurement approaches, such as emphasising compliance with the International Standards for Professional Practice of Internal Auditing (ISPPA), were utilised in prior studies (Al-Twajry, Brierley & Gwilliam 2003; Botha & Wilkinson 2019; Endaya & Hanefah 2013); this method has drawn some criticism, however, because it focusses on the implementation of procedures without paying attention to the desired results of the primary stakeholders. Other studies (e.g., Alzeban & Gwilliam 2014; Salehi 2016) investigated the success of internal auditing processes in terms of whether or not they were able to satisfactorily meet the needs of the auditors and evaluated how satisfied a client was with the work done by their auditors. Finally, several studies (e.g., Abbott et al. 2016; Carcello et al. 2018; Drogalas, Karagiorgos & Arabatzis 2015) utilised indirect measures, especially the degree of support that was given to the recommendations of the internal audit.

Given that internal audit effectiveness is associated with targets and objectives, it has been tied with value-added activities. Al-Twajry et al. (2003) and Mihret, James and Mula (2010) state that IAFs, when applied effectively, add value to organisations by improving operations and enhancing financial performance. Alzeban and Gwilliam (2014), Dellai and Omri (2016) and Gros, Koch and Wallek (2017) argue that an effective IAF helps to improve competitive advantage by providing the highest quality of financial reporting and by enhancing government processes. Therefore, it is essential to examine the effectiveness of internal audit for two reasons: the first is to evaluate the quality of performance operations and determine whether the IAF is being implemented in a satisfactory manner. The second is that the consideration can serve as a motivator for the organisation and the individual to enhance their performance (Mihret et al. 2010).

Clearly, effective IAFs have a bearing on the governance and accountability of an organisation. Through the IIA and its definition and standards, internal audit has

important targets to achieve, which makes it valuable to the organisation. When effective, internal auditing carries numerous benefits (Al-Twaijry et al. 2003; Mihret et al. 2010; Okodo, Aliu & Yahaya 2019). For example, governance, accountability, performance, ability to plan and control are reinforced through strong and effective internal auditing (Alzeban and Gwilliam (2014); Nasibah (2015)). This argument is rooted in the current definition of internal audit, which considers that this function can ‘improve the effectiveness of risk management, control and governance processes’ (IIA 2017). When internal audit improves the effectiveness of managing risk, control and governing process, it is meeting its set targets; hence, it can be stated that internal audit is effective in such circumstances (Badara & Saidin 2013; Sarens & Abdolmohammadi 2011; Soh & Martinov-Bennie 2011).

Many criteria have been put forward to evaluate the effectiveness of internal audit (Abdolmohammadi & Sarens 2011; Ahmad et al. 2009; Alzeban & Gwilliam 2014; Arena & Azzone 2009). Some of these criteria relate to economic factors. The effect of corporate governance, relating to quality or effectiveness, has also been suggested as a criterion for measuring the effectiveness of IAFs. The point here is that the support internal auditors receive from those they report to and the respect and trust they receive from their auditees will go a long way in demonstrating how effective the internal auditors and their functions are. These factors determine how their recommendations are implemented.

Turetken, Jethefer and Ozkan (2019) employed a different set of indicators to measure internal audit effectiveness. They asserted that the type of entity being measured can be used to classify the indicators of internal audit effectiveness (i.e., process, output and result indicators). An assessment of the activities conducted by the auditor forms the basis for process indicators; such activities include complying with the standards, planning and executing auditing activities and communicating the findings thereof. Output indicators are linked with the expectations of the internal audit stakeholders and seem to be consistent with the necessity of considering changes in stakeholder expectations; result indicators, on the other hand, utilise the influence of a specific result of the audit process on the firm. These indicators encapsulate various aspects, such as reduced costs that are due to implementing the internal auditor’s recommendations or increasing profits and the revenue-related performance of a given organisation.

Consequently, internal audit has a key role in ascertaining soundness in financial and operational controls (Dittenhofer 2001b). Further, the IIA standards function as a form of assurance that organisations comply with regulations, policies and procedures. All these functions guarantee that organisational resources are used effectively and safeguarded appropriately (Al-Twajjry et al. 2003). According to other research, IAF effectiveness is measured by the quality of performance (Alzeban & Gwilliam 2014; Salehi 2016). This study used a specific measure of internal audit effectiveness based on the quality of performance delivered by internal audit departments, which is in line with Alzeban and Gwilliam (2014). The overall measurement of internal audit effectiveness is undertaken based on different aspects of audit performance, including capability to plan, enhancement of the organisation's productivity, appraisal of the consistency of results with set goals and objectives, implementation of internal audit recommendations, assessment and enhancement of risk management, assessment of interior controls and suggestions for improvement.

#### **3.4.1 Prior Studies on Internal Audit Effectiveness in Developed Economies**

Internal audit effectiveness has been a major concern for both public and private sectors in Western countries. A discussion of these countries has followed in this section. Several studies have investigated and evaluated internal audit performance and efficacy (Abbott et al. 2016; Arena & Azzone 2009; Bhattacharyya 2015; Blackwelder et al. 2016; Carcello et al. 2018; Chambers 2015; Cohen & Sayag 2010; Drogalas, Karagiorgos & Arabatzis 2015; Goodwin-Stewart & Kent 2006; Van Peursesem 2004).

In New Zealand, Van Peursesem (2004) examined the functions that internal auditors regard as essential for their role. A total of 161 useable responses was received from auditors who were IIA branch members. The findings revealed that the internal audit role dilemma arose from the expectation that internal auditors could help management and individually to assess it. In recent years, other studies have pointed out that internal auditors should function more as consultants rather than 'policeman' (Arena & Azzone 2009; Cohen & Sayag 2010; Drogalas, Karagiorgos & Arabatzis 2015). Therefore, the internal auditors should provide more consultation to help management assess risks, review operating activities, and improve the procedures of their organisations rather than only being a 'policeman'.

European literature on internal audit indicates that the IAF has rapidly changed in response to the shift in global business practice (Allegrini et al. 2006). This can largely be attributed significant advances in IT and the increasing complexity of accounting transactions. These two factors have given rise to both opportunities and challenges for internal auditors, who have had to use their unique skills and knowledge to perform competently within organisations.

Goodwin-Stewart and Kent (2006) examined the corporate annual reports of 450 firms listed on the Australian Stock Exchange and found that only one-third of Australian companies carried out internal audits. Factors such as the size of the firm and the level of commitment to risk management were strongly associated with the presence of internal audit. The study indicated that large firms on the Australian Stock Exchange used only one or two internal auditors, while other firms did not have an IAF in place. Therefore, in the case of Australia, the relationship between the use of internal audit and strong corporate governance was tenuous. However, recent regulations have been tightened on both disclosures of internal audit and the implementation of IAFs. For example, the Australian Securities Exchange Corporate Governance Council principle number 7 requires listed companies to disclose the existence of an IAF (if the company has such a program) as well as the structure and role of internal audit. Principle 7 also requires listed companies to disclose if they do not have an IAF in place. The company plays a crucial role in mitigating risks and implementing strong internal control procedures; the implication of this is that an IAF is essential in risk management and strong internal control (Australian Securities Exchange 2014).

In Italy, the organisational drivers of internal audit were identified by Arena and Azzone (2009) using a survey of 153 large Italian listed and unlisted companies. The study found that internal audit effectiveness was influenced by several organisational factors such as characteristics of the audit team, audit processes and activities and organisational links. Although the study did not focus on the public sector, the attributes of effectiveness are also likely to be applicable to this sector.

In Israel, Cohen and Sayag (2010) surveyed 108 organisations and found that support from top management and, to some extent, internal audit independence, were the main factors contributing to the effectiveness of the IAF in the public and private sector. The researchers collected data from the organisations' general managers and internal auditors.

In Greece, the effectiveness of internal audit was found to be affected by the quality of internal audit, competence of the internal audit team, independence on the part of internal auditors and top management support. Of these, independence of internal audit was identified as the most crucial factor in determining internal audit effectiveness. These results were reported by Drogalas, Karagiorgos and Arabatzis (2015) using results from 40 survey responses of firms.

In 2015, internal auditing failure led to an accounting scandal at Toshiba, a Japanese firm (Bhattacharyya 2015). The company had inflated its earnings by about \$1.2 billion during 2009–2014. Internal audit had been providing only consultancy services rather than audit accounting. Setting unachievable targets for executives to earn performance-based increments was the driving force to manipulate earnings data. Internal audit failed to detect this manipulation. Top management also supported earnings manipulation by restricting the role of internal auditing to consultancy services without accounts audit.

Chambers (2015) and Blackwelder et al. (2016) highlighted the value of internal audit in the case of Volkswagen, which had ignored warnings and proceeded to illegally circumvent tough emission rules. Chambers (2015) also examined suspicious conduct by an audit committee and internal audit in the financial fraud committed by the top management of Satyam Computers. Thus, the need for an effective internal audit is clearly demonstrated.

From a study of NASDAQ listed companies, Abbott et al. (2016) found that a combination of competence and independence is required for effective internal audit. More specifically, the influence of competence on the quality of internal audit depended on the IAF's independence. The survey yielded 189 useable responses of chief internal auditors.

An online survey was carried out by Carcello et al. (2018) examining the value of using the IAF as a management training ground (MTG). The study surveyed 355 chief audit executives from organisations in Germany, Austria and Switzerland. The study revealed that top management was more likely to heed the recommendations of internal auditors as a management training ground rather than non-MTG internal auditors. This preference is attributed to the fact that internal auditors have what is referred to as a 'natural ability', which is an essential factor for managers in decision-making. The study, however,

focused only on one type of recommendation, which was internal audit recommendations on organisational operations. The study could have provided further information if it had examined different types of internal auditor recommendations.

In Taiwan, Chang et al. (2019) investigated the impact of internal audit attributes on the effectiveness of internal control. The study considered the relationship between IAF quality and internal control insufficiencies in both operations and compliance with regulations by using a unique dataset from publicly traded companies. The findings revealed that to enhance the performance of the IAF, the size of the internal audit team needed to be increased for operations and compliance purposes. The study also indicated that internal auditor competence in complying with rules and regulations was positively correlated with the efficacy of internal controls over compliance. In contrast, the competence of internal auditors was negatively associated with efficacy of internal control over operations.

### **3.4.2 Prior Studies on Internal Audit Effectiveness in Developing Economies**

Researchers have investigated the challenges associated with establishing internal audit departments in the public sector in developing countries such as South Africa, Sudan and Ethiopia (Brierley, El-Nafabi & Gwilliam 2001; Mihret, Mula & James 2012; Mihret & Yismaw 2007; Unegbu & Kida 2011; Van der Schyf 2000). Researchers have also examined the effectiveness of internal audit services using a variety of methods. Studies have used interviews and surveys to determine the effectiveness of internal audit in a variety of settings that bear little resemblance to those found in Western countries (Mihret & Yismaw 2007). For instance, in South Africa, Van der Schyf (2000) used the interview method in his study and found that there were six categories influencing the establishment of internal audit in the public sector. He identified obstacles such as the degree of independence of individual internal auditors, poor image of internal audit, inability of top management to take advantage of the internal audit department, lack of experienced internal auditors, lack of professionalism on the part of the internal auditors and the inability of the audit committee to exploit the usefulness of the internal audit department.

Similarly, Brierley et al. (2001) studied the problems relating to the establishment of internal audit in the Sudanese public sector and found that a shortage of internal audit staff, low salaries, lack of underlying regulations, inadequate job specifications,

misconceptions regarding internal audit's role, lack of an appropriate technological infrastructure, unwillingness to detect fraud and corruption, insufficient training, low motivation on the part of the internal audit department and unprofessional social relationships. All these factors were found to impact the effectiveness of internal audit.

In Ethiopia, Mihret and Yismaw (2007) identified factors impacting the effectiveness of internal audit and found that this function was impacted by management support and the quality of the internal audit. This finding is in line with the results reported by Van der Schyf (2000), which correlates the effectiveness of internal audit with the organisation's efficacy in achieving operational goals and with the optimal use of resources. The authors also discovered that neither the auditees nor the organisational setting have any significant effect on internal audit effectiveness. The quality of services provided by the internal auditors was found to be low because of the internal auditors' lack of technical proficiency.

Ahmad et al. (2009) conducted a study in the context of rapid fundamental growth in Malaysia, considering the need of organisations to satisfy a larger audience of external stakeholders in the public sector. The authors surveyed heads of internal audit, internal auditors and other staff of internal audit departments from various public sector organisations. The study revealed understaffing, inadequate top management support, low cooperation from auditors, lack of training and knowledge of effective internal auditing approaches among internal auditors as obstacles to effective internal audit. Negative perceptions of the IAF resulted in management ignoring the recommendations of internal audit. Thus, no positive contribution was possible from internal audit.

In Nigeria, Unegbu and Kida (2011) conducted a case study in Kano State Ministry of Finance. They found that internal auditors in several departments were ineffective in detecting frauds in the public sector because of a lack of employees and electronic processing. The public sector in Kano State had a significant number of internal audit departments functioning quite ineffectively.

The importance of examining internal audit in Ethiopia based on institutional norms was highlighted by Mihret et al. (2012). Their study revealed that government regulations were the principal element necessary to establish IAFs. Based on the responses of internal auditors in the public and private sectors, the study discovered pressures from the

environment of institutional isomorphism, namely, coercive, normative and mimetic pressures. These pressures were considered essential for the effective practice of internal audit.

In another Nigerian study, Badara (2012) examined the role of internal auditors in ensuring effective financial control in the context of the local government of Alkaleri, in Bauchi State. Internal audit plays an essential role in examining accounting transactions to ensure accuracy and adherence to legal requirements, accounting standards and organisational regulations. The study indicated that internal auditors provided an additional guarantee, ensuring sound financial control in the public sector.

In Ghana, Tackie et al. (2016) found high compliance with international standards and local regulations, adequate qualifications of internal auditors and effectiveness IAFs in local government. They attribute these positive results to internal audit's professionalism, independence and career advancement. However, the authors also revealed that lack of top management support had a negative impact on internal audit effectiveness.

In Tunisia, Omri (2016) found that factors contributing to internal audit effectiveness were independence, objectivity, management support, using the IAF as a management training ground and the sector in which the organisation operated. A similar one on the public sector by Shamki and Alhajri (2017) in Oman found a significant correlation between internal audit effectiveness and the experience of internal audit employees. However, an insignificant relationship was found when analysing managers' responses. The study also revealed there was no relationship between internal audit effectiveness and senior management's response. It is evident that employee conscientiousness needs to be improved to allow for efficient collaboration with internal auditors in the Omani public sector.

In Singapore, Yee et al. (2008) conducted interviews with managers at senior, middle and junior who were internal audit users from 25 organisations. The study revealed that both senior and junior managers viewed the role of the IAF as a partner while middle managers frequently regarded internal audit services in a negative light, perceiving internal auditors simply as 'watchdogs'. The study concluded that internal audit activities could be enhanced when the association between auditor and auditee are established in a cooperative and participative manner

In Indonesia, Gamayuni (2018) used questionnaires to examine the effectiveness of the IAF with respect to the quality of financial reporting. The results of the study revealed that the effectiveness of the IAF was positively influenced by the quality of financial reporting. Various weaknesses of the IAF were identified, particularly in terms of resource administration, notably, reporting to the owner, coordination, developing programs, quality control as well as compliance with rules and regulations. Gamayuni (2018) suggested that to enhance the quality of financial reporting, the local government should address any insufficiencies.

### **3.4.3 Prior Studies on Internal Audit Effectiveness in the Saudi Arabian Public and Private Sectors**

To date, there have been relatively few studies on internal audit efficacy in the Saudi public sector. (Alzeban & Gwilliam 2014; Alzeban & Sawan 2013) investigated the internal audit effectiveness of 79 public sector organisations in Saudi Arabia by surveying 203 managers and 239 internal auditors. Management support determined effectiveness, as perceived both managers and internal auditors. Management support referred to hiring competent staff, providing adequate resources, the relationship of internal audit with external auditing and the degree of independence of the IAF. In another study, Alzeban and Sawan (2013) conducted 29 semi-structured interviews with 9 internal auditors and 10 general and senior managers in the Saudi public sector as well as 10 external auditors from the GAB. The authors did not specify the number of organisations involved in the sample. The findings revealed that some of the government organisations in Saudi Arabia have failed to comply with Resolution No. 235 requiring the establishment of internal audit departments. It was found that the Saudi Audit Regulation (IAR) did not match international best practice prescribed by the IIA.

There is a small body of research on internal audit in the Saudi Arabian private sector ( Al-Shetwi et al. 2011; Al-Twajjry et al. 2003, 2004). For instance, Al-Shetwi et al. (2011) examined the impact of the IAF in relation to financial reporting quality on the Saudi stock exchange. The study included all listed Saudi Arabian companies (excluding banks) to collect secondary and primary data. A survey of 44 listed companies consisting of interviews with 27 internal auditors and 13 external auditors revealed a weak association between IAF and the quality of financial reporting. The study also revealed that listed companies' use of IAF amounted to little more than symbolic compliance with capital

market rules. In another study, Al-Twajjry et al. (2003) used two questionnaire surveys and interviews and found that internal auditing in Saudi Arabia was inadequately developed. IAFs were understaffed, underqualified and under-resourced. There were also restrictions on their independence and compliance audits were conducted in place of performance audits. Moreover, internal auditors were not welcomed by management or auditees.

Alzeban (2015a) examined the impact of cultural factors on the quality of internal audit in the private sector of Saudi Arabia. The responses of chief internal auditors from 67 listed companies were gathered to examine the direct influence of cultural dimensions such as power distance, uncertainty avoidance and individualism on the quality of internal audit. The findings revealed a significant association between individualism and the quality of the IAF in Saudi Arabian companies, emphasising that internal audit performance is mainly based on the achievements of the individual internal auditors and the professionalism associated with the procedure. The result of the study also showed that the greater the power distance and uncertainty avoidance, the lower the quality of internal audit. These findings reflect Saudi Arabian views where both cultural and economic situations are supported more by collectivism than individualism. It is only in recent years that governance and auditing were introduced into Saudi Arabia and that strong cultural elements, which according to Alzeban (2015a) are rooted in tribalism, represent the environment within which the desired state of the IAF can be allowed to function.

### **3.5 External Factors Impacting the Effectiveness of Internal Audit**

As mentioned in the previous literature on internal audit effectiveness, there is no sufficiently complete framework and no consensus in academia on the essential factors that contribute to the effectiveness of internal audit. This study focused on the external and internal factors in the Saudi public sector, with the aim of providing a complete framework of factors impacting internal audit effectiveness based on resource-based theory. Internal factors, which are discussed later in this chapter, are within the control of the internal audit department that impact internal audit effectiveness in the Saudi public sector. External factors are those outside control of the internal audit department or the external boundaries of the internal audit department that may impact internal audit effectiveness.

### **3.5.1 Top Management Support**

Top management support is regarded as the first external factor in resource-based theory that impacts internal audit effectiveness in this study. The definition of internal auditing embodies different factors, such as an acceptable level of governance which is, to some extent, related to the professionalism of management towards ensuring a thorough IAF (Alzeban & Gwilliam 2014; Carcello, Hermanson & Raghunandan 2005). To effectively achieve their audit objectives, internal auditors need to maintain a close relationship with the organisation's management in their everyday work; however, lack of support and negative perceptions undermine internal audit's ability to achieve their goals (Onumah & Yao 2012). According to Alkebsi and Aziz (2018), resource-based theory helps elucidate the relationship between staff and top management, which has the authority to control resources. Therefore, in return for support, internal auditors work harder to assist in achieving organisational goals.

High level support of the IAF from top management can assist internal auditors to accomplish certain tasks within the organisation. Researchers studying the effectiveness of the IAF have focused on evaluating the impact of management support (Alkebsi & Aziz 2018; Alzeban & Gwilliam 2014; Bednarek 2018; Brierley et al. 2001; Cohen & Sayag 2010; Dellai & Omri 2016; Onumah & Yao 2012). The important connection between top management and internal auditing is stressed by Salehi (2016) and Alzeban and Gwilliam (2014), who highlight the ways in which management can help internal auditing. These include management participating in the formulation of the internal audit plan and the chief audit executive giving careful considered input into the plan. Top management should be provided with credible, sufficient and germane reports by the IAF, detailing the work that was carried out as well as the recommendations and conclusions.

In Iran, Salehi (2016) conducted a survey of internal audit and reported that top management was identified as a critical validation factor for the effectiveness of internal audit. In an Ethiopian study on the public sector, Mihret and Yismaw (2007) revealed that a proper response to audit findings as well as commitment to strengthening internal audit were both instrumental in demonstrating management support and had a significant impact on internal audit effectiveness. Bednarek (2018) stated that responding to internal audit findings by top management was essential in supporting the IAF, resulting in an effective IAF in the Polish private and public sector.

In Ghana, Onumah and Yao (2012) examined the barriers and catalysts of internal audit effectiveness in 40 ministries, departments and agencies in the public sector. The lack of management ownership and support for the IAF was a key barrier to internal audit effectiveness. Also in Ghana, a study by Tackie et al. (2016) highlighted that internal audit effectiveness was undermined by the failure of top management to encourage internal auditors to carry out their responsibilities, as evident in the usual small number of staff, the small budget assigned to IAFs and the absence of a positive working environment. These shortcomings led to ineffectiveness on the part of the internal audit in carrying out its work.

As discussed above, Cohen and Sayag (2010) revealed that top management support was positively and significantly correlated with internal audit effectiveness, given that the success of the IAF is highly dependent on the level of management support. Alzeban and Gwilliam (2014) argued that management support was also positively correlated with several variables affecting internal audit effectiveness, such as hiring trained, experienced and engaged staff, providing the required resources, enhancing the relationship with external auditors and ensuring the independence of the internal audit department. For instance, standards 2120 and 2130 (IIA 2017) state that the internal audit activity should contribute to the evaluation and improvement of the organisation's governance processes. In this way, while operational management has traditionally experienced demand for consultation services from internal auditors, senior management experiences the need for both consultation and assurance regarding risks and controls.

Van Gansberghe (2005) studied internal auditing in the public sector in four countries, namely, Ethiopia, Kenya, Malawi and Uganda. The study revealed that to support the internal audit process, management had to accept and recognise the valuable contribution of internal auditing to the organisation. Omri. (2016) found that the organisation's overall acceptance and appreciation of internal audit's contribution strongly depended on senior management support, which was also positively correlated with the maturity of the IAF. In such a context, for internal audit to be successful, it is crucial that the IAF actively seek senior management support by stressing its potential to add value to the organisation.

Implementing the recommendations made by the IAF is a key factor reflecting management support of the internal auditing process (Ahmad et al. 2009; Carcello et al. 2018). This is because the management of the organisation can be viewed as the customer

receiving the internal audit services (Al-Twaijry et al. 2003; Mihret & Yismaw 2007). In this regard, management's acceptance, value recognition and implementation of the internal auditors' recommendations resulted in improvements in the internal audit effectiveness (Van Gansberghe 2005). However, Ahmad et al. (2009) revealed that internal auditors were not always in a position to influence management to implement the suggested changes and improvements.

Management support can also be demonstrated through adequate funding of the IAF and through the provision of access to the entire facilities. Alzeban and Sawan (2013) indicate that to be able to properly perform their work, internal auditors need to have a suitable budget and access to the whole organisation. A study by Christopher, Sarens and Leung (2009) showed that internal auditors are sometimes selected to become future managers in the organisations they serve. It is common for internal auditors to interact with top management through the chief financial officer (CFO) of their organisation as the budget of the IAF is approved by either the chief executive officer (CEO) or the CFO. Getting budgets approved by top management and receiving moral and/or physical support enables internal auditors to perform their functions effectively. Hence, effectiveness is only possible when there is considerable top management support across all parts of the organisation.

With high level management support, internal auditors can more easily gain access to resources for implementing tasks and meeting responsibilities. Moreover, an internal audit department can have the authority to hire qualified employees and train them, thereby improving their abilities and efficiency (Alzeban & Sawan 2013). Drogalas, Karagiorgos and Arabatzis (2015) clarified that top management influence, which sets the tone for strong internal control and organisational performance, can lead to strong performance of IAFs. Alkebsi and Aziz (2018) linked top management's role to competitive advantage by suggesting that top management can create competitive advantage by recruiting highly qualified internal auditors who are well supported and adequately equipped to perform their responsibilities. Further, the study used resourced-based theory to indicate that top management can create competitive advantage by using the organisation's tangible and intangible resources. Cohen and Sayag (2010), Alzeban and Gwilliam (2014) and Drogalas, Karagiorgos and Arabatzis (2015) emphasised that top management support is an essential resource impacting internal audit effectiveness.

These authors found that a positive and significant relationship of this factor with internal audit effectiveness. Therefore, it can be claimed that internal audit is presumed to be more effective when it receives improved management support through supporting the performance of internal audit, involvement in the internal audit plan, the provision by internal audit to top management of sufficient and relevant reports, responding to the internal audit report, and providing sufficient resources in terms of number of staff and budget. This discussion leads to the following hypothesis:

*H1. Top management support is significantly associated with the effectiveness of internal audit.*

### **3.5.2 Organisational Culture**

Organisational culture is regarded as the second external factor in resource-based theory that impacts internal audit effectiveness in this study. There is disagreement in academia on the exact definition of organisational culture, nonetheless, it is generally encapsulated as ‘how we do things around here’ (Roth 2017). Organisational culture is formed based on the fundamental assumptions learned and shared by organisations in response to solving issues related to external adaptation. These are embedded in organisations through internal integration by teaching new employees the concepts used to solve problems within the organisation (Al-Alawi, Al-Marzooqi & Mohammed 2007). The culture within an organisation, which is unique to that organisation, is formed over a long period of time and in visible and invisible dimensions of the identity of the organisation. The mission of the organisation, its philosophy and values are reflected in the visible dimension whereas the unwritten values guiding the actions and perceptions of employees within the organisation are reflected in the invisible dimension (McDermott & O’Dell 2001).

Clearly, organisational culture exerts an important impact on the enhancement and variation of organisational strategies. Essentially, culture directly links strategy to consequences. As emphasised by Hofstede (1984), culture is a complex phenomenon which encompasses different elements. He identifies six dimensions in his framework used to compare national cultures, namely, power distance, uncertainty avoidance, individualism versus collectivism, masculinity versus femininity, long-term versus short-term orientation and indulgence versus restraint.

Hofstede (1984) asserted that an organisation is culturally dependent, because it is comprised of intangible symbols that are closely linked with culture. In a later study, Hofstede (2011) held that there are different levels of cultural aspects, from the national to the organisational level; according to Hofstede, there is a relationship between cultural differences at the national level and the early development stages that a person goes through and as such, it is already established at the time of entering the organisation. On the other hand, changes that occur in organisational cultures feature corporate practices that are able to relate to a higher level of tangible cultural aspects; since national culture is deeply rooted, it is more difficult to change, compared to organisational culture. Culture is time-dependent; when seeking to explain this dependence, Sarros, Cooper and Santora (2008) suggested that the length of time people live in a given culture and the historical age of the culture have a significant impact on their feelings, thoughts and perceptions. While changing organisational culture appears to be possible, it is a daunting task (Hofstede 2011).

Based on Hofstede's (1984) work, Alzeban (2015a) examined listed companies in Saudi Arabia, focusing on the quality of the IAF in these companies. The findings revealed that quality was lower when power distance and uncertainty avoidance of the organisations were high. Individualism was positively correlated with the quality of internal audit. This meant that the individual accomplishments of internal auditors were important for internal audit effectiveness. The strong traditional and Islamic cultural elements exerted an enormous influence on the IAF's functioning and effectiveness.

In a similar study conducted by Dicle and Usluer (2016), 192 responses from internal auditors in firms from 46 countries showed that internal audit was ineffective in organisations in countries where masculinity and hierarchical structures did not allow subordinates to freely express their opinion against management decisions. Internal audit effectiveness was high when the managers of internal audit departments were part of the senior management team and had responsibilities or quality improvement programmes (Alzeban 2015a; Dicle & Usluer 2016).

According to the Chartered IIA (CIIA 2014), the scope of internal audit should be expanded to include corporate culture. Thus, internal audit should evaluate the extent of collaboration when dealing with management and other departments—a relatively new task for internal audit. To achieve this, internal audit staff need to build effective

teamwork and spirited collaboration within the organisation to carry out their audit engagements and accomplish tasks in a straightforward manner. The IAF must also gain the trust and confidence of management and other departments to ensure access to hard data and obtain access to information. Further, employee behaviour can enhance confidence in internal audit effectiveness; however, poor employee behaviour, including that of management, can lower internal audit effectiveness. To illustrate this point, inadequate communication skills, lack of dialogue and insufficient responses from management and employees can hinder the effective operation of internal audit, leading to a lack of confidence in IAFs. Consequently, changes in culture are the responsibility of the internal auditors, who need to understand and keep up with the organisation's culture.

Al-Alawi et al. (2007) examined the access to knowledge-sharing within the context of organisational culture. Key factors in organisational culture included communication among staff, rewards, information systems, interpersonal trust and organisational structure. The findings revealed that these factors played a crucial role in defining relationships between employees. The study proposed ways in which knowledge-sharing issues could be resolved. The study revealed that organisational culture is positively associated with knowledge-sharing and that it would lead to positive outcomes, one of which was organisational prosperity.

In their detailed analysis of demand and supply factors impacting the effectiveness of internal audit, Lenz and Hahn (2015) cited organisational culture as highly significant in the effectiveness of internal audit. Role ambiguity and conflict among individuals in the organisation had a negative impact on internal audit effectiveness. Lack of trust in particular, was identified as a critical issue.

According to Brierley et al. (2001) and Onumah and Yao (2012), there are ineffective or insufficient rewards to encourage employees to reinforce positive behaviours in relation to internal auditors, who are commonly perceived by staff as 'spies', looking for mistakes and reporting them to management. For instance, in cases where internal auditors started to ask specific questions to ensure that regulations were implemented and processes were followed, employees believed that any mistakes would immediately be reported to management. Further, these questions made employees feel uncomfortable and were regarded as offensive. In this case, the search for objective proof might lead auditees to

feel misunderstood, with IAF questions being construed as an accusation of lack of trust or of dishonesty. Internal auditors observed that under such circumstances, it was tremendously difficult to build social relations with employees, a factor which deterred more highly qualified employees from working in the IAF.

Schein (2010) views organisations as separate countries, with every single organisation being able to evolve its own culture. Previous studies have shown the impact of organisational culture on both organisational behaviour and the individual. The collaboration between managers, employees and internal auditors is paramount for any organisation. Consequently, a positive organisational culture is necessary for the success of any organisation and can be used to manage staff and keep them aligned with organisational goals (Ahmadi & Saeedi 2015; Osibanjo & Adeniji 2013). According to Saad and Abbas (2019), optimal organisational culture creates competitive benefits for insofar as it fosters employee commitment, develops capabilities and learning at individual and collective level. Such a positive organisational culture emerges from the assumptions, norms, attitudes and values prevalent in the organisation.

Barney (1991) emphasised that organisational culture is an essential source of competitive advantage in firms because it enhances a firm's efficiency and effectiveness. This advantage is maximised if the IAF plays a central role in improving operational performance. Kapelko (2005) argued that, in line with the resource-based theory, organisational culture is also an example of intangible assets. Organisational culture is regarded as the most crucial external factor impacting internal audit effectiveness. Al-Twajry et al. (2003) and Alzeban (2015a) reiterate that organisational culture has a positive relationship with internal audit effectiveness. Therefore, it can be concluded that internal audit is more effective when there is a positive organisational culture in terms of communication among staff, rewards, information systems, interpersonal trust and organisational structure. Based on this conclusion, the following hypothesis is proposed:

*H2. Organisational culture is significantly associated with the effectiveness of internal audit.*

### **3.5.3 Independence of Internal Audit**

The independence of internal audit is regarded as the third external factor in resource-based theory that impacts internal audit effectiveness in this study. The concept of

independence has been defined by the IIA (2017) as the freedom from any conditions restricting the ability of the IAF to carry out its responsibilities without bias. The concept of independence allows internal auditors to be in a position where they are able to state their opinions honestly, without fear that this may threaten their position. If such challenges were to compromise the auditing process, the organisation's competitive advantage could be curtailed (Asiedu & Deffor 2017; D'Onza et al. 2015; Shohihah, Djamhuri & Purwanti 2018). Therefore, internal auditors can carry out their duties in an unbiased manner only if they exercise complete freedom or independence from the operations and activities of the organisation; they must also avoid any involvement in the design of the internal control system (Bou-Raad 2000; Cohen & Sayag 2010; Lenz & Hahn 2015).

An audit committee is a significant component of financial management and accountability, and establishing them in public-sector bodies is crucial to improve effectiveness, enhance independence and boost interactions between internal auditors and an organisation's board (Trotman & Duncan 2018). The audit committee can support the internal auditing process by serving as an independent forum for internal auditors to shed light on matters that affect management (Coetzee & Erasmus 2017). Moreover, the internal audit department can assist the audit committee in overseeing risk management and reporting, specifically the issue of information asymmetry, which is the result of an audit committee that does not have direct access to the same level of information as management (Trotman & Duncan 2018); this problem can be resolved by working together with internal auditors (Soh & Martinov-Bennie 2009). However, there is a lack of public sector audit committees in the Saudi public sector (Alzeban & Sawan 2013). The Saudi government needs to take the initiative to establish and develop a public sector audit committees in order to enhance and to take internal audit effectiveness to the next level (Al-Twajjry et al. 2003; Alzeban 2015b).

According to Alzeban and Gwilliam (2014) and Salehi (2016), to ensure the independence and objectivity of the internal auditing process, IIA professional guidance of Practice Advisories and worldwide professional standards and guidance from International Standards for Professional Practice of Internal Auditing (ISPPA) all suggest strict adherence to guidelines. This includes reporting to different levels of the organisation, which allows internal audit staff to carry out their responsibilities in a transparent manner

without any interference from other organisation members. Further, it allows the internal audit unit to have no conflict of interest; gain direct access to the board and top management; have unlimited access to records and the history of departments and personnel; have no executive influence in the appointment and removal of the head of internal audit; and assign non-audit activities to internal auditors. The guidelines are critical in ensuring that the IAF is conducted independently and that internal auditors are objective when carrying out their tasks. For this reason, several studies have emphasised that the objectivity and independence of the internal audit department are critical. As mentioned above, the level of authority to which the internal audit staff reports to is also a strong determinant of objectivity in carrying out the audit process (Cohen & Sayag 2010; Shohihah, Djamhuri & Purwanti 2018).

Alzeban and Gwilliam (2014) stress that the effectiveness of the IAF on the independence and objectivity of the internal audit department. This viewpoint is affirmed by Al-Twajiry et al. (2003) in their study of the Saudi Arabian corporate sector and reiterated in the Malaysian study of Noraini et al. (2018), who state that independence determines reliability, integrity and the reality of operational and financial information. Kamau, Kariuki and Mutiso (2014) argue that most managers and executives perceive internal auditors as their employees, and consider internal auditor recommendations as simply a formality to satisfy the requirements of the organisation. Given that some managers and executives view internal auditors as their employees, they prompt the internal auditors by involving them in managerial duties. This is the point where managers and executives threaten the IAF's independence.

In Indonesia, Shohihah, Djamhuri and Purwanti (2018) clarified that internal auditors with open access to every unit of work and to all employees demonstrate extreme independence. This implies that an internal auditor should be able perform an audit task without any kind of interruption or involvement from the auditee. Their study focused on the accessibility of data, which is reflective of the limitless power of the audit task. It enables the internal auditor to plan with ease, perform the audit activity and report the findings of the audit without undue influence or intervention from the outside. The findings revealed that independence has a positive impact on internal audit effectiveness. This finding is confirmed by Cohen and Sayag (2010) and Chang et al. (2019) who demonstrated that lack of independence is a hindrance to effective internal audit,

particularly the strength of the IAF. In Saudi Arabia, Alzeban and Sawan (2013) indicated that the IAF has non-existent organisational status, which means that internal auditors find it too challenging to maintain independence. Alzeban and Gwilliam (2014) concur, stating that internal auditors should avoid conflict of interest when performing their duties. Hence, internal auditors must remain unbiased and neutral to avert any conflicts of interest when planning, performing and submitting a report. In South Africa, Van der Schyf (2000) indicated that the IAF's lack of independence is challenging in the public sector, observing increased anxiety regarding reporting levels and the lines of communication during the internal audit procedure.

Shohihah, Djamhuri and Purwanti (2018) assert that independence can be regarded as freedom from any conditions that could hinder the IAF from perform its duties in an objective manner. To enhance the independence of internal audit, Mostafa, Hussain and Mohamed (2020) indicate that internal auditors should not be expected to actively participate in everyday managerial duties in organisations. Instead, they should focus on achieving the goals of the organisation to gain competitive advantage. A positive correlation between the independence of the quality of work was also found in a study of Israeli companies by Cohen and Sayag (2010). This study adapted the resource-based theory to explain how independence of internal audit team as an organisational resource could enhance the effectiveness of internal audit. Alqudah et al. (2019) also applied the resourced-based theory to show that the external factor of independence could produce a competitive advantage by using both the intangible assets of an organisation. Alqudah et al. (2019) concur, stating that the independence of internal audit is one of the most significant drivers of competitive advantage. Therefore, it can be concluded that internal audit is anticipated to be more effective when it is more independent, as reflected by gaining direct access to the board and top management; having unlimited access to records and the history of departments and personnel; no conflicts of interest; having no executive influence in the appointment and removal of the head of internal audit; and not assigning non-audit activities to internal auditors. Based on this conclusion, the following hypothesis is proposed:

*H3. Independence of internal audit is significantly associated with the effectiveness of internal audit.*

### **3.6 Internal Factors Impacting the Effectiveness of Internal Audit**

This section explores internal factors within the IAF that impact internal audit effectiveness in the Saudi public sector. These factors have been classified into four categories, in line with the resource-based theory, namely, motivation of internal audit staff, size of the internal audit team, the utilisation of IT and the competence of the internal auditors.

#### **3.6.1 Motivation of Internal Audit Staff**

The motivation of internal audit staff is the first internal factor impacting internal audit effectiveness, in line with the resource-based theory. Kocman and Weber (2018) define work motivation as ‘a set of energetic forces that originate both within as well as beyond an individual’s being to initiate work-related behaviour and to determine its form, direction, intensity and duration’. The psychological characteristics which drive an organisation to achieve its desired objectives, exert control and maintain goal-oriented behaviours have also been considered motivational factors (Kwapong, Opoku & Donyina 2015). It has been argued by Kuvaas et al. (2017) that motivation can arise from the desire to perform an activity, with the individual being driven by tangible benefits that stem from performing the activity, or from a desire to perform an activity that provides pleasure as it is performed. Motivation can arise from tangible incentives or intangible rewards from performing the activity.

To satisfy the needs of employees, adequate salaries are a prime source of motivation for the staff to remain within the firm (Kulchmanov & Kaliannan 2014). Every business periodically increases payment and uses bonuses and promotions as means of enhancing the performance of employees, encouraging them to aspire to a higher level (Dobre 2013). To effectively use salaries as a motivator, Manzoor (2012) argues that directors of organisations need to consider the salary structure, which should reflect the value associated with every duty and payment based on performance, special allowances, pensions and fringe benefits. For some employees, money is the most significant motivating factor and is also regarded as a symbol of status and power (Uzonna 2013). Money comes in the form of wages, payment for units produced at a specific quality level and also includes rewards, bonuses, insurance, stock options and others.

In the context of internal auditing, Masood and Lodhi (2015) note that motivation is regarded as a contributing factor to the effectiveness of the IAF. Their study revealed that internal audit effectiveness was enhanced by organisations promptly promoting internal auditors and paying allowances in a timely fashion. However, Abu-Azza (2012) found that internal auditors and other diligent staff at every level of the Libyan public sector are paid extremely low salaries. As a consequence, there is no work motivation.

In the Sudanese public sector, Brierley et al. (2001) showed that the main issue affecting the establishment of an internal audit department was low salaries and a lack of a proper infrastructure. The study discovered that internal auditors were not allowed to perform extra duties beyond their main tasks; no payment was made for overtime duties and consequently, internal auditors did not perform their duties effectively. Brierley et al. (2001) concluded that there was a shortage of office facilities, which hindered the IAF from effectively carrying out its duties. In summary, the IAFs in the public sector are undermined lack of access to basic needs such as laptops, word processing equipment, photocopying machines and filing cabinets.

Van Beek et al. (2012) explained that for most employees, salaries and wages were cited as the most important reason to work since they were measurable and tangible; hence, the payment of a salary or wages functions as a great motivator for most employees. It is important for organisations to understand that their chances of success hinge on how well they can motivate their employees to work to the best of their ability in fulfilling their roles and achieving goals and objectives (Manzoor 2012).

The resource-based theory focuses on human capital resources as well as employee motivation. Owuor (2018) contends that the key pillar of an organisation's success is human capital resources, which include the encouragement of internal auditors as well as tangible and intangible resources to achieve a solid competitive advantage. The perceptions of individual managers, alongside the organisation features of workers that can be leveraged to achieve set organisation goals and overall competitive advantage, are both classified as part of the human capital resource (Barney 1991; Scott & Christensen 1995).

Motivated internal auditors are some of the most significant drivers of competitive advantage in organisations. It is therefore essential for organisations to attract highly

qualified talent and provide tangible incentives and intangible rewards for internal auditors to remain motivated to perform their responsibilities (Al-Twajry et al. 2003; Alzeban & Sawan 2013). Competitive incentives may reduce certain pressures placed on internal auditors and help them to remain focused to perform their functions. It is essential for organisations to come up with competitive packages for their IAFs. Therefore, it can be concluded that internal auditors are more effective when they are motivated through tangible incentives and intangible rewards. Based on this conclusion, the following hypothesis is proposed:

*H4. The motivation of internal audit staff is significantly associated with the effectiveness of internal audit.*

### **3.6.2 Size of the Internal Audit Team**

The size of the internal audit team is regarded as the second internal factor in resource-based theory that impacts internal audit effectiveness in this study. The size of an IAF can be a good determinant of the degree of effectiveness. In this regard, Alzeban (2018) and Salehi (2016) emphasise that the audit department must be equipped with adequate resources to effectively perform its responsibilities. The number of internal audit staff compared to the amount of work responsibilities is pivotal to the IAF's effectiveness (Ahmad et al. 2009; Alzeban & Gwilliam 2014; Salehi 2016). According to the IIA (2018), the chief audit executive is tasked with the responsibility of ensuring that the internal audit resources are sufficient, as outlined by the ISPPA in the Resource Management Standard. In this regard, audit staff are expected to inform senior management of any lack of resources (ISPPA, Standards 2030 and 2230). To ensure an effective auditing procedure, sufficient auditors should be hired and trained to enhance their professional competence.

Al-Twajry et al. (2004) used a questionnaire and interviews to gather data from internal and external auditors in Saudi Arabia. The findings indicated that according to the external auditors, IAF size was a critical indicator of the quality of audit work. Additionally, a large internal audit was highly beneficial for internal audit operations. For example, a larger-sized IAF had more flexibility and opportunity for a staff rotation plan that could significantly influence the internal audit's effectiveness. This would promote a healthier relationship, resulting in more dependable and objective audit investigations.

A larger-sized internal audit attracts more resources as well as having a broader work scope and talent pool and higher organisational status than smaller departments (Zain, Subramaniam & Stewart 2006). In this regard, the quality of internal audit work has been noted to be better in internal audit units having a higher number of experienced audit staff than those with a lower number. This view is supported by Arena and Azzone (2009), who argue that the size of the internal audit department (a larger proportion of staff) is strongly related to internal audit effectiveness.

Several other studies report a significant correlation between the size of the internal audit team and audit effectiveness (Ahmad et al. 2009; Alzeban & Gwilliam 2014; Alzeban & Sawan 2013; Brierley et al. 2001). For instance, according to Brierley et al. (2001), the Sudanese public sector's internal audit departments are faced with the challenge of understaffing, which limits their effectiveness. A similar conclusion was noted by (Ahmad et al. 2009) in the Malaysian public sector, where understaffing reduced the success of the IAF. The study concluded that IAFS needed support from top management to ensure adequate staff and resources to enable them to perform their duties effectively (Ahmad et al. 2009).

In the Saudi public sector, Alzeban and Sawan (2013) and Alzeban and Gwilliam (2014) found that one of the major obstacles to conducting an effective audit was the shortage of experienced and qualified staff. Brierley et al. (2001) and Chang et al. (2019) support this view, contending that the size of IAF—in terms of the number of employees who directly participate in the IAF—is positively related to internal audit effectiveness. This is because the audit staff are not overburdened with an excessive workload.

Further studies have shown that the effectiveness of the IAF is determined by the number of employees who work directly as internal auditors. Therefore, the effective performance of IAF is only possible where the staff requirements have been met, enabling them to work efficiently and effectively. This is a view supported by Arena and Azzone (2009) and Coetzee and Erasmus (2017) in their argument that internal audit effectiveness is positively correlated with the size of the internal audit team as well as its competencies and allocated resources.

A study by Alzeban and Gwilliam (2014) corroborated the findings of several other studies in pointing out that the quality of internal audit work is higher when the number

of staff is sufficient. According to Arena and Azzone (2009), a larger team will allow for the rotation of functions between the auditors to ensure a higher degree of objectivity and competitiveness. In their study, the resource-based theory was used to explain how the effectiveness of internal audit can be greatly improved by the size of the audit team, which is a critical resource of an organisation. Moreover, this theory has been used to demonstrate that the size of an organisation, as an internal factor, played a crucial role in creating a competitive advantage through the proper use of an organisation's tangible and intangible resources (Barney 1991). The size of the internal audit team offers several key drivers of an organisation's competitive advantage. According to Nasibah (2015), the quality of internal auditing work is greatly enhanced by a larger number of employees in the IAF, which broadens the scope of internal audit's work. Therefore, it is likely that size of internal audit team with a large number of staff is anticipated to be more effective than a small number of staff. The hypothesis is formulated as follows:

*H5. The size of the internal audit team (in terms of the number of internal audit staff) is significantly associated with internal audit effectiveness.*

### **3.6.3 Utilisation of Information Technology**

The utilisation of IT is the third internal factor in resource-based theory that impacts internal audit effectiveness in this study. According to Al-Gahtani, Hubona and Wang (2007) and Almasri et al. (2018), technology is pervasive, penetrating every aspect of both personal and business lives. Current technological advancements must be embraced to effectively manage the evolving and increasingly complex business environment (Curtis et al. 2009). As noted by Cannon and Growe (2004), IT is required for the design, implementation and control of many business processes. Financial statements contain a summary of data, which is collected, processed and stored using IT. Alkebsi and Aziz (2018) stated that most companies are rapidly becoming increasingly dependent on IT through, for example, the use of integrated information systems and electronic document management. According to Ridley (2008), with the help of IT, transaction processes are now carried out more swiftly and accurately, which has led to an improved competitive and economic advantage for organisations. Abu-Musa (2008) concludes that with IT, an organisation can reduce costs, improve operational efficiency, execute faster transactions, minimise human error and ultimately achieve a greater competitive advantage.

IT has revolutionised the ways in which organisations conduct business, enhancing operational efficiency and decision-making (Moorthy et al. 2011). Therefore, in addition to using automated systems and data, internal auditors are now expected to understand the business purposes of these systems as well as the environment within which they operate (Moorthy et al. 2011). As pointed out by Abualgasim and Osman (2015), internal auditors with solid knowledge of IT can assist organisations in effectively managing and responding to risks. Hass, Abdolmohammadi and Burnaby (2006) argue that as the utilisation of IT in companies is gradually becoming more sophisticated, internal auditors should move beyond merely accepting technology and also understand it and be able to implement it as a tool for effective auditing.

While the nature of IT is highly complex, thus making auditing more difficult, it can also streamline internal audit procedures through continuous IT controls. Therefore, IT training will upskill internal audit employees, providing them with an alternative option to conventional manual auditing methods. Noraini et al. (2018) indicate that a competent internal auditor should be able to audit a computer system used by the organisation. Moreover, according to the IIA Standard 1210, internal auditors need to understand how IT works and should be deployed not only within the organisation but also in relation to vital IT risks, controls and IT-based audit methodologies (IIA 2017). Hence, based on this specification of the IIA, it can be seen that the IAF and IT have gained prominence and influence in organisations.

Smidt et al. (2018) investigated Generalised Audit Software (GAS) and its adoption and application by Australian organisations in executing internal audit. Their findings revealed that GAS is a popular technology-based tool suited for internal auditing, especially for tests and controls. However, GAS is still underused by IAFs throughout the world, despite the prominence of IT and the vast data with which organisations have to work. Likewise, the results further revealed that GAS is still very much underused in IAFs across Australian organisations, with just 17.4% of the respondents using this software to its fullest potential.

According to Weidenmier and Ramamoorti (2006), IT and the broader field of audit have witnessed significant changes, and this has also affected internal auditing. Having integrated IT and electronic data processing systems, organisations now rely on new businesses processes that have significantly improved their operational efficiency and

decision-making. Hermanson, Hill and Ivancevich (2000) examined IT-related activities in an exploratory study of 100 internal audit directors working in US organisations. The study discovered that audit directors tend to prioritise conventional IT risks and controls over development and acquisition risks. That is, the focus is more on IT asset safeguarding, data integrity and application processing, privacy, security and other traditional IT risks and controls. Further, the findings showed that how well internal auditors fared in IT evaluations depended factors such as the presence of new IT systems, the type of audit objective and the level of influence of the IT audit specialists on the internal audit staff. Alkebsi and Aziz (2018) found that when the internal audit staff spent more time using IT, this increased the efficiency and effectiveness of internal audit procedures and enhanced the reputation and prestige of the IAF in the organisation.

The resource-based theory is more focused on the types of resources an organisation has to offer and how well it can leverage IT. Alkebsi and Aziz (2018) revealed that an organisation's chances of success depend on the resources it has to work with, which include IT and internal auditors. According to the resource-based view, resources must also work together effectively to ensure a competitive advantage and swift achievement of goals (Barney 1991). Further, if adequately used, IT systems can make IAFs within organisations more respected and more reliable (Abualgasim & Osman 2015; Curtis et al. 2009).

Internal auditors need to work together with IT professionals and procedures to make the internal audit process more effective and competitive (Smidt et al. 2018). This view is supported by Alkebsi and Aziz (2018), who suggest that IT can be used to understand basic logic, carry out recalculations and perform other audit functions, thereby ensuring the quality of the financial statements. Therefore, it can be concluded that internal audit is expected to be more effective when internal audit staff spend more time using IT for internal audit activities. Based on this conclusion, the following hypothesis is proposed:

*H6. The utilisation of IT (in terms of the number of hours IT is used per day for internal audit activity) is significantly associated with the effectiveness of internal audit.*

### **3.6.4 Competence of Internal Auditors**

The competence of internal auditors is the fourth internal factor in resource-based theory that impacts internal audit effectiveness in this study. Competence normally refers to the

capability of auditors to diligently accomplish tasks in accordance with audit professional principles and standards (Drogalas, Karagiorgos & Arabatzis 2015). The IIA refers to competence as the capability of an individual to perform a specific task or execute a job in an appropriate way, reflecting a specific set of skills, knowledge and behaviour (IIA 2017). Alzeban and Gwilliam (2014) and Chang et al. (2019) reinforce the assertion of the IIA and prior research, noting that internal auditors' competence is attributed to the effectiveness of IAF.

According to D'Onza et al. (2015), staff competence is a crucial factor in an effective IAF. Therefore, to be effective, internal auditors require the proper competence to carry out tasks adequately. Al-Twaijry et al. (2003) and Okodo, Aliu and Yahaya (2019) concur, stating that the recruitment of internal auditors as well as the supervision of its members is crucial in ensuring an effective audit operation. Drogalas, Karagiorgos and Arabatzis (2015) affirm that technical capability and continuous training are essential for efficient internal audit. Competent internal auditors also enhance internal audit effectiveness since they contribute to the recognition of the IAF within an organisation (Bednarek 2018).

The quality of an audit is fundamentally reflected in the competence of the internal auditors. According to Shohihah, Djamhuri and Purwanti (2018), work experience is regarded as a useful tool in promoting internal audit competence. Cohen and Sayag (2010) add that the length of experience is a determining factor of auditors' expertise and knowledge. Burnaby and Hass (2009) assert that internal auditors need a wide range of competencies to attain adequate performance, based on the numerous hierarchical levels in internal audit departments. In addition, Drogalas, Karagiorgos and Arabatzis (2015) note that competence can be evaluated by the level of professional qualification, the professionalism and proactiveness of employees, communication between internal audit staff and auditees, the level of education as well as the input of members in continuous professional improvement.

The IAFs' competencies, in terms of their activities, have been recognised as one of the factors that influence internal audit effectiveness (Alzeban & Gwilliam 2014; Cohen & Sayag 2010; Shohihah, Djamhuri & Purwanti 2018). This view is supported by researchers such as Mpakaniye and Paul (2017) and Okodo, Aliu and Yahaya (2019), who contend that audit staff competence is an important indicator of a reliable and effective IAF. Al-Twaijry et al. (2003) and Alzeban and Sawan (2013) found that there is a limited number of IAF managers or staff in the public and private sectors of Saudi

Arabia who are Certified Internal Auditors (CIAs) or who have relevant professional qualifications. These authors clarified that internal audit programs and courses are only offered by a small number of universities. The lack of such internal audit programs and courses has influenced internal audit effectiveness in the public and private sectors of Saudi Arabia.

In Malaysia, Ahmad et al. (2009) and Ali et al. (2007) evaluated the importance of internal audit within the public sector. Their findings revealed that inadequately qualified staff with low levels of experience, training and knowledge became major issues that had a negative impact on internal audit effectiveness. Similar outcomes were found by Bednarek (2018) and Drogalas, Karagiorgos and Arabatzis (2015). These authors discovered that a lack of competence in IAFs was one of the most pressing problems facing internal audit. These authors proposed that education, training and experience in auditing or accounting were essential requirements to enhancing the competence of internal auditors. The research also recommended that internal auditors be adequately qualified and trained in all required knowledge and skills to effectively carry out their tasks.

According to Cohen and Sayag (2010) and Alzeban and Gwilliam (2014), internal auditors should be sufficiently educated to be valued as a human resource within their organisations. These authors contend the wide range of knowledge and skills required by internal auditors has led to a significant challenge for professional institutes, higher education institutions and management. This leads to the strong likelihood that internal audit will become very efficient, if performed by internal auditors who have the relevant skills, knowledge and other appropriate competencies. In line with the resource-based theory, the most valuable resources of an organisation are its human resources, reflected in the competence, academic or professional capabilities and experience of its employees (Kapelko 2005). Therefore, high-level competencies and qualifications of internal auditors would have a profound impact on the efficiency of an organisation's operations and reputation. It is likely that the greater the internal auditors' competencies in terms of professional knowledge, employee professionalism, employee proactivity, communication between employees, training, and educational qualifications, the higher the internal audit effectiveness. This leads to the following hypothesis:

*H7. The competence of internal auditors is significantly associated with the effectiveness of internal audit.*

### **3.7 Conclusion**

This chapter reviewed the literature on internal audit effectiveness, establishing a theoretical foundation for the study through the resource-based theory. The chapter explored the current internal audit standards of the IIA and the importance of compliance with those standards. The discussion then moved to the IAF, its role and its effectiveness in organisations. Consideration was given to prior studies on internal audit effectiveness in developed and developing economies as well as in the Saudi Arabian public sector. Furthermore, both external and internal factors that impact internal audit effectiveness were discussed. The next chapter presents the research methodology adopted in the study.

## **Chapter 4: Research Methodology**

### **4.1 Introduction**

This study used a mixed methods approach to address the research questions. Hence, the study combined a qualitative approach (semi-structured interviews using small sub-samples) and a quantitative approach (a survey using large sample sizes). Triangulating the data through different approaches increases the validity of the results and conclusions. This is because the benefits of one approach compensate for the shortcomings of the other. This chapter presents an overview of the research design and the research approach followed by a discussion of the procedures followed for the interviews and questionnaire as well as the pilot study.

### **4.2 Research Design**

A suitable and reliable research instrument has a direct effect on the outcomes of research. Mitchell and Jolley (2012) state that a research design acts as a work plan for proposing and reaching the research aims and objectives. Almalki (2016) explains that a research design involves more than a work plan; it outlines not only the aim, purpose, audience, intention and plan of the research but also the practical limitations of place, time, funding and the availability of the investigator. Creswell notes that the selection of any research design is affected by issues such as the method of data collection, analysis and interpretation. Further, Almalki (2016) clarifies that any research design must be selected at an early stage to be aware of any bias that may occur during the investigation. Thus, research design may affect the choice of which approach to use as well as the types of tools needed for collecting the data.

### **4.3 Research Approach**

Both methodologies and methods are important concepts in research. According to Wahyuni (2012), a 'methodology is a map, while a method refers to a set of steps to travel between two places on the map' (p.72). The adoption of a suitable methodology is crucial for successful research (Bryman & Bell 2015; Creswell 2013).

This study applied a mixed methods approach, combining both interviews and a questionnaire to gather information on the internal audit practices and characteristics of the Saudi public sector. There was no secondary data available, such as internal audit reports, documents and audit plans, because these are kept confidential by organisations. Further, this study follows previous research with similar objectives; therefore, it relies on primary data obtained through interviews and a questionnaire (Al-Twaijry 2000; Alzeban 2010; Mousa 2005).

#### **4.4 Mixed Methods and Triangulation**

The mixed methods approach used in this study means that the shortcomings of one method were compensated for by the advantages of other method, thereby increasing the reliability of the results (Almalki 2016; Creswell & Clark 2018; Ivankova & Wingo 2018; Terrell 2012). Qualitative methods allow for more detailed and flexible investigations of issues within a larger context, whereas quantitative methods are useful for making statistical inferences regarding connections between variables (Bryman & Bell 2015; Creswell 2014; Teddlie & Tashakkori 2009). Overall, the approach adopted in the study allowed a better understanding of the outcomes because of the detailed interpretation both approaches provide.

Integrating qualitative and quantitative components and finding the right balance between them is the main concern with mixed methods. According to Bryman and Bell (2015), if more than one method is used, the triangulation of data for cross-verification is possible. In a mixed methods approach, qualitative and quantitative data are collected in a convergent parallel manner. A convergent parallel design is used when a researcher is concurrently considering qualitative and quantitative elements in the same phase of a study; the researcher gives both methods equal weight, independently examines the two components and provides an interpretation of both outcomes together (Alkhurayyif & Weir 2018). The convergent parallel strategy was adopted for the present research because of its straightforward nature. Thus, the first stage of data collection is the qualitative data and the quantitative aspects are conducted simultaneously in this study. At the interpretation stage, both methods are combined, although the focus is placed on qualitative and quantitative information (Bryman & Bell 2015; Creswell & Clark 2018). This means it was reasonable to employ the convergent parallel triangulation design in this study. The advantages of triangulation are as follows: it assures the validity of

different types of data regarding the same issue, thereby enhancing the confidence of the researcher in the results. Further, triangulation substantiate and validates the outcomes of the research project (Bryman & Bell 2015; Kroll & Neri 2009).

## **4.5 Qualitative Research Method**

A qualitative methodology is based on subjectivism, with the qualitative researcher interpreting and making sense of social phenomena (Creswell 2013). Researchers are inclined towards a qualitative research approach when they wish to explore the behaviour of individuals in a natural setting (Creswell & Clark 2018; Highfield & Bisman 2012). By examining the meaning behind people's symbolic actions and behaviour, a qualitative approach allows the researcher to understand the social world from the perspective of the participant (Collis & Hussey 2013; Srivastava & Thomson 2009).

Qualitative data, particularly in the form of spoken or written words, are considered a strength since they provide richer and deeper descriptions of the social phenomenon under investigation (Almalki 2016; Alvesson & Sköldbberg 2017). Qualitative analysis is predicated upon interpretation because it uses an inductive approach, which creates useful concepts for analysis (Creswell & Clark 2018). Qualitative researchers also tend to collect in-depth data using a small number of participants or cases within a limited setting. Alvesson and Sköldbberg (2017) argue that this may have two implications. First, the internal validity of the research is strengthened by the in-depth data since qualitative researchers take particular care to ensure that their observations and concepts fit well together. However, the second implication is that qualitative research collects data using only a small number of cases, which means the findings cannot be generalised.

### **4.5.1 Interviews**

Interviews, particularly semi-structured ones, are a suitable tool for collecting data in the qualitative approach. An interview can be defined as an exploratory conversation between the researcher and someone fitting the study sample (Creswell & Clark 2018). Qu and Dumay (2011) indicate the two advantages of using interviews. First, the respondents are given the opportunity to freely express their points of view and second, researchers can prepare questions prior to the interview, which significantly reduces time-wasting. In this study, the respondents had a sound understanding and adequate experience in their fields

of expertise. Interviews also enable the respondents to address various issues and provide insights into areas of interest to the study (Bryman & Bell 2015).

#### 4.5.2 Semi-structured Interviews

In semi-structured interviews, the interviewer prepares a list of questions in advance. However, these are only used to guide the conversation and the respondents are given ample opportunity to express their opinion about the topic (Longhurst 2003). As pointed out by Bryman and Bell (2015), in semi-structured interviews, the interviewer should also have the ability to vary the sequence of questions. However, despite these advantages, semi-structured interviews also have several drawbacks. The Table 4.1 compares the advantages and disadvantages associated with semi-structured interviews.

**Table 4.1: Advantages and Disadvantages of Semi-structured Interviews**

<b>Advantages</b>	<b>Disadvantages</b>
<ol style="list-style-type: none"> <li>1. Since the questions are uniformly applied to all the interviewees, the data has high reliability and comparability.</li> <li>2. The researcher has the opportunity to prepare questions in advance, which prevents time-wasting during the interview.</li> <li>3. The interviewees can express their real and honest thoughts in response to the questions they are asked.</li> <li>4. The interviewees can provide further explanation and clarification if they are asked a more complex question.</li> </ol>	<ol style="list-style-type: none"> <li>1. For researchers to obtain as much information as possible, they must have good communication skills.</li> <li>2. The interviews must not take too long, especially when the questions are complex and require further clarification and extra details about the subject of the study.</li> </ol>

Source: Adapted from Bryman and Bell (2015)

#### 4.5.3 Pilot Study for the Interviews

The purpose of a pilot test is to ensure that method will work well in practice (Kim 2011). Pilot tests help to identify any issues in the primary research and feedback can be used to make revisions and adjustments where necessary. Kim (2011) indicates the benefits of a pilot study used to test a qualitative technique:

1. A pilot study is extremely helpful for specifying issues such as those related to sampling; it also provides an opportunity to eliminate any issues in the primary research.

2. A pilot study intends to unearth issues related to real-world research, which allows qualitative researchers to concentrate on whether the number of subjects in the study needs to be extended or narrowed.
3. A pilot study can benefit qualitative researchers during the evaluation and preparation of the interviews as well as in the observation period.
4. A pilot study is useful for the self-assessment of the qualitative researcher in terms of readiness, ability and commitment.
5. A pilot study is highly useful in terms of improving the validity and reliability of qualitative research.

In the current study, the interview questions were pre-tested in a similar manner to the questionnaire. The pilot of the interview questions was undertaken from the beginning of August 2019 until the end of November 2019, which was the same period during which the questionnaire pilot study was conducted. Due to time constraints, the pilot studies of the interview questions and of the mail-out survey questionnaires were carried out at the same time. In the present study, the time and availability of the piloting participants to provide their feedback was also taken into consideration. The interview questions were sent to 12 PhD holders and 12 senior PhD students with research expertise from different universities, namely, Victoria University, Deakin University, RMIT University and King Khalid University (see section 4.6.5). Positive feedback was received from the piloting participants regarding the interview questions, with some suggestions for minor changes. The respondents suggested reordering and rephrasing several interview questions in the interview guideline for the internal audit managers in the Saudi public sector. For example, one of the respondents suggested changing the position of one question ('How do internal auditors train in your organisation? Who provides this training?') from near the end of the interview guideline (Question 8) to near the beginning. As a result of this suggestion, the question was moved from the eighth position to become Question 3. The respondents also pointed out some grammatical issues in the questions, which were implemented accordingly. Appendices A and B contain the English and Arabic versions of the interview questions, which were designed for the three different target groups.

#### **4.5.4 Interview Sample and Procedures**

Sampling involves choosing a section of the population to ease data collection and to ensure that the data gathered are manageable (Smith 2017). In this study, the interviewees

were chosen through purposive sampling from different internal audit departments to gain a better understanding of their experiences. As suggested by Polkinghorne (2005) and Black (2011), purposive sampling in qualitative research is helpful because participants can provide relevant and useful information based on their experiences in a specific field. Therefore, this study selected participants who have had experienced and worked for at least three years or more in the internal audit departments of the Saudi Arabian public sector. Previous studies with a similar design have also used purposive sampling (Al-Twaijry et al. 2003; Mihret 2010a; Obeid 2007). This study used three different target groups, consistent with Alzeban and Sawan (2013). Thus, interviews were conducted with 12 managers of internal audit departments and 12 internal auditors from those departments who had worked for at least three years in the IAF in the Saudi public sector. The interviewees were selected from 12 different types of public sector organisations which include 3 ministries, 4 independent agencies, 2 local governments, and 3 public institutions. Data are collected via interviews with the managers of internal audit units and internal audit employees from the same government organisations to address issues that cannot be captured in a questionnaire. The interview data are expected to enhance the related questionnaire data administrated later and enable a more in-depth examination of these matters. The interviews with managers of internal audit departments and internal auditors sought to identify the nature of external and internal factors and the extent of their influence on the effectiveness of internal audit. The managers of internal audit departments and internal auditors who have had experienced and worked for at least three years or more in the internal audit departments of the Saudi Arabian public sector can also provide relevant and useful information based on their experiences in the internal audit field. Interviews were also conducted with 12 employees working for the GAB as external auditors because the GAB has taken on the role of the external auditor and the body responsible for establishing internal audit for all public-sector organisations. Therefore, interviews were conducted with external auditors to explore the main reasons for the lack of established internal audit departments in Saudi government organisations. The interviewees were located in different cities in Saudi Arabia.

As mentioned by Bryman and Bell (2015), semi-structured interviews help both the researcher and the participants to engage in meaningful dialogue. This study used open-ended questions to explore the external and internal factors impacting the effectiveness of internal audit in the Saudi public sector. The questions were also used to determine the

reasons for the lack of IAFs in some government organisations. Moreover, the interviews addressed some issues that the quantitative approach alone could not analyse. The vast majority of issues regarding corporate governance, especially internal auditing, are sensitive and highly confidential. Having one-on-one discussions was the better option in these cases. It was therefore hoped that the selected interviewees would reveal information about the issues related to the effectiveness of internal audit in the Saudi public sector.

Before conducting an interview, the researcher contacted each interviewee by telephone to make an appointment. The interviews were held in Riyadh, the capital city, and in other cities where large and small government organisations are located. The interviews took approximately 30 to 35 minutes, although the manner in which each interview was conducted varied slightly. This meant that the researcher had to clarify and repeat the questions for a number of interviewees when they had difficulty understanding the questions. In some cases, the researcher had to provide a copy of the interview questions to the interviewees when they asked the researcher to see the questions more closely.

All 36 interviews were conducted face-to-face. One of the benefits of this technique is the ability to see and record verbal behaviour (Bryman & Bell 2015). To ensure cooperation from interviewees, the researcher guaranteed that any information they provided would remain confidential and would only be used for research purposes. Further, a letter from the Saudi Arabian Cultural Mission was provided for some government organisations which requested it. This endorsement facilitated the process of conducting interviews as well as motivating the respondents to participate (see Appendix C). The researcher explained the advantages of audio recording the interviews and asked the interviewees if they would agree to be recorded. All interviewees agreed. The interviews were conducted and transcribed into Arabic from the audio recordings; they were then translated into English. Double-checking was important to ensure the accuracy of the translation. The benefits of audio recordings include making sure that all information is captured (Basit 2003) and that the deficiencies intrinsic to note taking are compensated for by the audio recording, thereby limiting human error. To prepare the data for thematic analysis and detailed content analysis, the transcribed interviews were converted into Word documents.

#### 4.5.5 Qualitative Data Analysis

Thematic analysis is commonly used for analysing qualitative data (Burnard et al. 2008; Huberman, Miles & Saldana 2014). Using this method, patterns or themes can be identified, pinpointed and examined across the qualitative data, which includes the different responses of the participants. Braun and Clarke (2006) and Huberman, Miles and Saldana (2014) provide a detailed guideline on the procedure to be followed in thematic analysis. This procedure consists of six steps or phases: (i) familiarity with the data gained through repeated readings and taking notes; (ii) transcription of verbal data into written text; (iii) generation of initial codes (these are the first impression themes, which may be corrected afterwards); (iv) searching and categorising codes into a few well-distinguished themes forming patterns across the data; (v) reviewing the themes identified by going backwards; and (vi) checking whether any theme could be improved or discarded or if any theme needed to be added, defined and named (using striking words). The final list of sub-themes is then identified within each theme and prepared for the report. The themes and sub-themes need to be supported with appropriate examples, directly quoted from the data without providing the participants' names.

The interviewees included 12 managers of internal audit departments and 12 internal audit employees from 12 different types of public sector organisations which include 3 ministries, 4 independent agencies, 2 local governments, and 3 public institutions. The data collected from these managers and employees were analysed together since this study only focuses on identifying the external and internal factors impacting internal audit effectiveness. There was no triangulation of responses between participants from the same organisation because the participant's answers were not different and the answers of the managers of internal auditors and internal audit staff are repeated again from the same organisation. The 12 external auditors in the interviewee sample were analysed separately in order to provide information about why internal audit departments were only implemented in some, and not all, government organisations.

In the current study, four main themes were identified during the data analysis: (i) external factors impacting internal audit effectiveness, (ii) internal factors impacting internal audit effectiveness, (iii) factors hindering the establishment of internal audit units and (iv) improving internal audit departments in the Saudi public sector. Several sub-themes also

emerged from the analysis. Table 4.2 and 4.3 present the themes and sub-themes of the study.

**Table 4.2: Emerging Themes and Sub-themes for factors impacting internal audit effectiveness**

<b>Main Themes</b>	<b>Themes</b>	<b>Sub-themes</b>
External factors impacting internal audit effectiveness	Top management support	Adequate resources Available funds Audit plan Implementation of internal audit recommendations
	Organisational culture	Scope of work Trust between departments Communication with other departments
	Independence of the internal audit	Appointment and replacement of managers of internal audit Freedom of enquiry Involvement in non-audit work
Internal factors impacting internal audit effectiveness	Motivation of internal audit staff	
	Size of internal audit team	
	Utilisation of IT	
	Competence of internal auditors	Staff employment Educational qualifications Work experience Continuing development
Factors hindering the establishment of IAFs	Misunderstanding the role of the IAF	
	Lack of support from the GAB	
	Financial issues	
	Lack of qualified employees	
	Lack of support from management	
	Lack of independence	

**Table 4.3: Emerging Themes and Sub-themes for improving IAFs in the Saudi public sector**

<b>Main Themes</b>	<b>Themes</b>	<b>Sub-themes</b>
Improving IAFs in the Saudi public sector	Internal audit effectiveness improvement factors: Increase competent staff Increase size of internal audit team Increase independence Remove restrictions Provide motivation Improve cooperation and trust Increase top management support Provide appropriate resources Provide seminars and training programs	

## **4.6 Quantitative Research Method**

A quantitative research method should be based on objectivism, in line with the post-positivist worldview to control variables and test specific hypotheses (Khanal 2014). The focus of quantitative research is on the rational aspects of data, with the thoughts of individuals being expressed through numbers and statistics (Creswell 2014). This method can be used when the researcher aims to determine the number of people who are in favour of a proposed change in products or services and to determine the extent to which they sustain their point of view. Usually, vast quantities of numerical data are produced by quantitative research, which can be used to conduct a statistical analysis (Almalki 2016; Bailey 2014). A quantitative approach allows the researcher to specify which variables are included in the research and understand the relationships among them, which, in turn, can be used to prove or disprove assumptions or hypotheses (Bryman & Bell 2015).

When it comes to collecting the data, quantitative research designs benefit from structured approaches. Questionnaires and surveys are prime examples of these approaches; the respondents are presented with a certain number of questions and all they have to do is to mark one of the options from a pre-set list of answers (Creswell & Clark 2018; Devetak, Glažar & Vogrinc 2010). Using questionnaires and surveys facilitates the process of tabulating and quantifying responses in terms of how frequently the participants selected certain multiple choice answers (Bryman & Bell 2015). In general, more people are included in quantitative research to ensure the statistical relevance of the results. Having a larger number of respondents means the outcomes can be generalised not only to the study population but also to populations with similar features.

Quantitative approaches have a number of advantages, for example, the standardisation of the tools used for data collection, which facilitates data collection and analysis. Creswell (2014) maintains that the replication of research results of a variety of research samples is feasible. Using data collection tools such as questionnaires also limits the inclusion of personal bias in the responses because the respondent and the researcher do not interact during the process of data collection. This minimises the impact of the researcher on the respondents in terms of their answer (Bryman & Bell 2015).

However, there are also limitations in quantitative studies, chiefly because the numerical description of the data does not adequately capture human perceptions. Since the respondents are offered only a specific number of choices to select from in the questionnaires, they are to a large extent deprived of the freedom to express their real feelings and opinions with respect to the research phenomenon. This view is corroborated by Wahyuni (2012) and Almalki (2016), who point out that in quantitative research, only numerical descriptions are collected from the respondents and there is no consideration for detailed narratives that involve human perceptions.

Two types of questionnaires were used in the study—an online version and a personally distributed questionnaire. Both types are addressed in the following section.

#### **4.6.1 Online Questionnaire**

The internet has become a useful resource for researchers to conduct web-based research (Bryman & Bell 2015; Hunter 2012; Wright 2005). The advantages of using electronic questionnaires are undeniable; however, the deficiencies cannot be neglected either.

Electronic questionnaires can be easily disseminated via email or through a website (Wright 2005). The researcher simply emails the questionnaire to the respondents, followed by a reminder. This method of data collection is used to gather data representative of a population in a fast and convenient way. The information gathered from the electronic questionnaire can be used to generalise the findings drawn from a sample back to the population, within the limits of random error. Table 4.4 lists the advantages and disadvantages of electronic questionnaires.

**Table 4.4: Advantages and Disadvantages of Electronic Questionnaires**

Advantages	Disadvantages
<ol style="list-style-type: none"> <li>1. It is the easiest way for respondents to provide their answers; all they have to do is to click on a button. It can increase the response rate and generate answers rapidly.</li> <li>2. There are no time restrictions; the respondents have the freedom to select a time that suits them to complete the questionnaire.</li> <li>3. Because the respondents' identity remains anonymous, they may feel more comfortable answering sensitive questions and are therefore more likely to give a frank response.</li> <li>4. It is cost-effective.</li> </ol>	<ol style="list-style-type: none"> <li>1. Some individuals may think that they do not have the necessary abilities to complete an online questionnaire.</li> <li>2. Slow internet connections and outdated computers can pose a problem; for example, downloading the questionnaire can take a long time.</li> </ol>

Source: Adapted from Bryman and Bell (2015).

#### **4.6.2 Personally Distributed Questionnaire**

According to Bryman and Bell (2015) and Collis and Hussey (2013), personally administered questionnaires deliver the best results. This is because respondents have the opportunity to ask for clarification and they feel obliged to complete the entire questionnaire. An overview of the advantages and disadvantages of personally distributed questionnaires are shown in the Table 4.5.

**Table 4.5: Advantages and Disadvantages of Personally Distributed Questionnaires**

<b>Advantages</b>	<b>Disadvantages</b>
<ol style="list-style-type: none"> <li>1. Personally administered questionnaires are time-efficient. It takes less time for respondents to complete the questionnaire, thereby providing a higher response rate. It also reduces interviewer bias to a minimum.</li> <li>2. It is easier for the researcher to give an explanation to respondents and to allay any doubts or uncertainties regarding the questionnaire.</li> <li>3. The researcher can receive more honest responses to the questionnaire by introducing the research topic, giving the respondents information about research themes and motivating them to provide straightforward answers.</li> <li>4. The researcher has the opportunity to take check if the whole questionnaire was completed without any blanks or errors.</li> </ol>	<ol style="list-style-type: none"> <li>1. Personally distributed questionnaires are not necessarily cost-effective. Compared to other means of collecting data, it costs more to conduct surveys, especially when the respondents are abroad or spread over different geographical locations.</li> <li>2. There is a probability of participants avoiding responding to issues with a higher level of sensitivity.</li> </ol>

Source: Adapted from Bryman and Bell (2015).

#### **4.6.3 Operationalisation of Variables and Sources of the Questionnaire**

As discussed in Chapter 1, the main objectives of this study are to investigate the effectiveness of internal audit in the Saudi public sector and to use resource-based theory to examine the relationship between external and internal factors (independent variables) and internal audit effectiveness (dependent variable). Thus, the purpose of the questionnaire was to gather data to address the main objectives of this study.

Using resource-based theory, the study focuses on three external independent variables—top management support, organisational culture and the independence of internal audit. These independent variables, which are external factors outside control of the IAF, may impact internal audit effectiveness in the Saudi public sector. The study also focuses on four internal independent variables—motivation of the internal audit staff, the size of internal audit team, utilisation of IT and competence of internal auditors. These

independent variables, which are internal factors within the control of the IAF, may impact internal audit effectiveness. The independent variables and the dependent variable represent the perceptions of the different participants, namely, managers of internal audit and internal auditors who are subject to GAB audits in the Saudi public sector.

Bryman and Bell (2015) recommend using questions that have been successfully tested before to gather similar data. Consequently, the measurement items of the independent and dependent variables in this study were adopted from prior research as shown in Table 4.6.

Questions were largely based on a thorough review and examination of the existing literature and queries that were utilised in past studies (see Table 4.6). As was previously discussed, it is recommended that questions that were successfully adopted in prior studies can be included to collect similar types of data (Bryman & Bell 2015); this often helps researchers to avoid limitations and shortcomings related to the items being measured.

The present study incorporated a total of 67 measurement items. Table 4.7 outlines the conclusions of the reliability analysis, which indicated the acceptability of Cronbach's Alpha, and Appendix F provides an overview of the reliability results for the items in each measurement. No shortcomings were observed at the time the data were collected, and none emerged during its analysis. The objective of the survey constructs was to analyse the practices associated with internal audit effectiveness; and it put forth the argument that there are three external and four internal factors that impact internal audit effectiveness (see Table 4.6).

**Table 4.6: Indicators of the Independent and Dependent Variables and Sources**

External Independent Variables	Measurement Items	Type of Question and Sources
1. Top Management Support (Independent Variable)	<p>6 Items:</p> <ul style="list-style-type: none"> <li>• <i>Top management supports the internal audit department in performing its duties and responsibilities.</i></li> <li>• <i>Top management is involved in the internal audit plan.</i></li> <li>• <i>The internal audit department provides top management with sufficient, reliable and relevant reports about their work and recommendations.</i></li> <li>• <i>Top management’s responses to internal audit reports are reasonable.</i></li> <li>• <i>The internal audit department is large enough to successfully carry out its duties and responsibilities.</i></li> <li>• <i>The internal audit department has an adequate budget to successfully carry out its duties and responsibilities.</i></li> </ul>	<p>Five-point Likert scale            Adapted from Alzeban and Gwilliam (2014)            Previously used by Mohammad, Afza and Haslinda (2019), ALshbiel (2017) and Salehi (2016).</p>
2. Organisational Culture (Independent Variable)	<p>19 Items:</p> <ul style="list-style-type: none"> <li>• <i>I do not hesitate to share my feelings and perceptions with my colleagues.</i></li> <li>• <i>I believe co-workers should not share personal information.</i></li> <li>• <i>Certain rules and procedures exist to protect the person sharing his/her knowledge against the harmful intentions of others.</i></li> <li>• <i>Most of my colleagues are people whom I know well and consider trustworthy.</i></li> </ul>	<p>Five-point Likert scale            Adapted from Al-Alawi et al. (2007)            Previously used by Islam et al. (2011).</p>

- 
- *I have not been previously harmed as a result of sharing my knowledge with my co-workers.*
  - *I believe most people would not hesitate to take advantage of others' knowledge and experience for personal gain.*
  - *There is a considerable level of trust among co-workers in this organisation.*
  - *There is a high level of face-to-face interaction among colleagues in the workplace.*
  - *Language is not a problem when communicating with other staff.*
  - *Teamwork discussion and collaboration enhances communication between colleagues.*
  - *This organisation provides various tools and technologies to facilitate knowledge-sharing and exchange (e.g. groupware, email and intranet).*
  - *The technological tools available at this organisation for sharing knowledge are effective.*
  - *I feel comfortable using the knowledge-sharing technologies available.*
  - *Employees are rewarded for sharing their knowledge and experience with their colleagues.*
  - *The knowledge-sharing rewards available effectively motivate staff to share their knowledge.*
  - *Employees are more likely to be rewarded for teamwork and collaboration than for individual performance.*
  - *Workers actively participate in decision-making.*
-

- 
- *Information flows easily throughout the organisation regardless of employee roles or other boundaries.*
  - *Certain tasks require the formation of teams with members from different departments.*
- 

3. Independence of Internal Audit (Independent Variable)

9 Items:

- *Internal audit staff are sufficiently independent to perform their professional obligations and duties.*
  - *The head of internal auditing reports to a level within the organisation that allows the internal audit to fulfil its responsibilities.*
  - *The head of internal auditing has direct contact with the president of government organisations.*
  - *The internal audit department has direct contact with senior management other than the finance director.*
  - *Conflicts of interest rarely occur in the work of internal auditors.*
  - *Internal auditors rarely face interference from management while doing their work.*
  - *Internal audit staff have free access to all departments and employees in the organisation.*
  - *The president of government organisations approves the appointment and replacement of the head of internal auditing.*
  - *Internal audit staff are not requested to perform non-audit functions.*
- 

Five-point Likert scale

Adapted from Alzeban and Gwilliam (2014)

Previously used by Mohammad, Afza and Haslinda (2019), ALshbiel (2017), Salehi (2016) and Tackie et al, (2016).

Internal Independent Variables	Measurement Items	Type of Questions and Sources
1. Motivation of Internal Audit Staff (Independent Variable)	10 Items: <ul style="list-style-type: none"> <li>• <i>The tasks that I do at work represent a driving power in my job.</i></li> <li>• <i>The tasks at work are enjoyable.</i></li> <li>• <i>The job is meaningful.</i></li> <li>• <i>The job is very exciting.</i></li> <li>• <i>My job is so interesting that it is motivating in itself.</i></li> <li>• <i>Sometimes I feel so inspired by my job that I nearly forget everything around me.</i></li> <li>• <i>If I am supposed to put in extra effort in my job, I need to get extra pay.</i></li> <li>• <i>It is important for me to have an external incentive to motivate me to do a good job.</i></li> <li>• <i>External incentives such as bonuses and provisions are essential for how well I perform my job.</i></li> <li>• <i>If I had been offered better pay, I would have done a better job.</i></li> </ul>	Five-point Likert scale Adapted from Kuvaas et al. (2017) Previously used by Van der Kolk, Van Veen-Dirks and Ter Bogt (2019).
2. Size of Internal Audit Team (Independent Variable)	1 Item: <ul style="list-style-type: none"> <li>• <i>What is the number of internal auditors working in the department?</i></li> </ul>	Direct question Adapted from Salehi (2016) Previously used by Mohammad, Afza and Haslinda (2019).
3. Utilisation of IT (Independent Variable)	1 Item: <ul style="list-style-type: none"> <li>• <i>How many hours per day is IT used for internal audit activities?</i></li> </ul>	Direct question Adapted from Al-Gahtani, Hubona and Wang (2007).

4. Competence of Internal Auditors (Independent Variable)	<p>6 Items:</p> <ul style="list-style-type: none"> <li>• <i>The professional knowledge of internal auditors is high.</i></li> <li>• <i>Internal auditors are considered professionals.</i></li> <li>• <i>Internal auditors are proactive.</i></li> <li>• <i>There is communication between internal auditors and other departments within the organisation.</i></li> <li>• <i>Internal auditors attend educational seminars for continuous training.</i></li> <li>• <i>Internal auditors have adequate education</i></li> </ul>	<p>Five-point Likert scale Adapted from Drogalas, Karagiorgos and Arabatzis (2015) Previously used by ALshbiel (2017) and Kukuiah (2019).</p>
<b>Dependent Variable</b>	<b>Measurement Items</b>	<b>Type of Questions and Sources</b>
Internal Audit Effectiveness (Dependent Variable)	<p>15 Items:</p> <ul style="list-style-type: none"> <li>• <i>Internal audit improves organisational performance.</i></li> <li>• <i>Internal audit reviews operations and programmers to ascertain whether results are consistent with established objectives and goals.</i></li> <li>• <i>Internal audit determines the adequacy and effectiveness of the organisation's systems of internal accounting and operating controls.</i></li> <li>• <i>Internal audit reviews the accuracy and reliability of financial reports.</i></li> <li>• <i>Internal audit reviews the compliance with policies, plans, procedures and regulations.</i></li> <li>• <i>Internal audit reviews compliance with applicable external laws and regulations.</i></li> <li>• <i>Internal audit reviews the means of safeguarding assets.</i></li> </ul>	<p>Five-point Likert scale Adapted from Alzeban and Gwilliam (2014) Previously used by Mohammad, Afza and Haslinda (2019), ALshbiel (2017), Salehi (2016) and Tackie, Marfo-Yiadom and Achina (2016).</p>

- 
- *Internal audit evaluates and improves the effectiveness of risk management.*
  - *Internal audit reviews the economic, effective and efficient use of resources.*
  - *Internal audit evaluates the internal control system.*
  - *Internal audit makes recommendations for improving the internal control system when appropriate.*
  - *Internal audit improves the organisation's productivity.*
  - *Internal audit develops appropriate annual audit plans.*
  - *Timely action is taken to implement the recommendations of the internal audit report.*
  - *Internal audit provides adequate follow-up to ensure that appropriate corrective action is taken and that it is effective.*
-

#### **4.6.4 Design of the Questionnaire**

The questionnaire was designed with different types of closed-ended questions such as multiple-choice questions. The first section of the questionnaire sought the respondents' demographic information, including gender, age, employment status, level of education, professional qualifications and work experience. In this section, participants were also asked how long their internal audit unit had existed, the number of internal auditors in the unit, their use of IT or not for job-related activities and the number of hours that IT was used per day for internal audit activities.

The other sections of the questionnaire contained questions which were measured using a five-point Likert scale to allow the participants to tick how strongly they agreed or disagreed with different statements, with 1 = strongly disagree and 5 = strongly agree. According to Joshi et al. (2015), when working with questionnaires, the Likert scale is the most common method employed by researchers to gauge the extent to which respondents agree or disagree with a statement. Joshi et al. (2015) add that a five-point Likert scale assists in reaching a higher level of reliability. The questionnaire was written in two languages: English and Arabic. These two versions of the questionnaire are attached in Appendices D and E.

#### **4.6.5 Pre-testing and Pilot Study of the Questionnaire**

According to De Vaus (2013) and Bryman and Bell (2015), a questionnaire should be pre-tested prior to its official administration in a study. This is done to determine the validity of the tool by ensuring that any potential or existing deficiencies in the design and administration of the questionnaire are identified (Creswell & Clark 2018). Bell, Bryman and Harley (2019) emphasise it is crucial to pre-test the research instrument to ensure that the questions are worded in a clear and simple manner, making it easy for respondents to comprehend. Pre-testing also ensures that there are no issues related to measurement of the items.

During this time, several procedures were carried out before the final survey was conducted. The first step in pre-testing process was that the first draft of the English version was sent to the supervisory team for comment. Positive feedback was received, along with some suggestions for minor changes. For example, the supervisors suggested

reorganising the order of the questions regarding participant background to be more logical and to rephrase a number of the statements to ensure clarity.

The second step in pre-testing process was that the English version of the questionnaire was sent to 12 PhD holders and 12 senior PhD students with research expertise from different universities, namely, Victoria University, Deakin University, RMIT University and King Khalid University. The objective of this step was to gain further comments about the representativeness and appropriateness of the questions as well as the framework of the questionnaire. A week after the questionnaire was sent, the researcher emailed a reminder to the PhD holders and senior PhD students, asking them to respond with feedback. Consequently, positive comments were received, with some suggestions for minor changes that were also discussed with the supervisory team. For example, useful comments were received regarding the disagreement scale with a suggestion to reverse the scale from 1 = strongly agree to 5 = strongly disagree to 1 = strongly disagree to 5 = strongly agree. The researcher considered this suggestion relating to changing the scale and decided to implement this change, because it meant that higher scores would be more positive, which is what respondents would expect. Finally, some small amendments were made to the questionnaire, such as correcting some of the grammar and adjusting some of the wording in the items according.

The third step in the pre-testing process was to translate the English version of the questionnaire into Arabic. The reason for this step was to encourage participants who have little or no background in the English language and to enable them to understand the questionnaire in Arabic and, accordingly, participate in the study. The researcher conducted the translation of the questionnaire. After that, the English and Arabic versions of the questionnaires were sent to the National Accreditation Authority for Translators and Interpreters (NAATI). The translation was reviewed by a NAATI-certified translator for verification and accuracy purposes and a few minor amendments were suggested regarding the Arabic terms used. The researcher made these amendments to ensure there were no errors that might change the meaning or context of the questionnaire in the Arabic version. The researcher then sent the Arabic version back to the NAATI for a second review. The translation was confirmed to be accurate and as such, the researcher was satisfied with the accuracy of the translated version.

The last step was conducting a pilot study of the questionnaire. The English and Arabic versions were emailed to internal audit managers and internal audit practitioners in Saudi Arabia who were fluent in English to review both versions. There were 40 respondents for the pilot of the questionnaire, consisting of internal audit managers and internal audit employees. These respondents were asked to provide comments and suggestions regarding the clarity and length of the questionnaire. Positive feedback was received from the internal audit managers and internal audit employees regarding the clarity of the questionnaire. Most respondents stated that the questionnaire took at least 20 minutes to complete. Therefore, the researcher changed the description of how much time the questionnaire would take to complete from less than 15 minutes to less than 20 minutes so that the participants would be aware of the correct length of the questionnaire. As mentioned above, 40 responses were received from internal audit managers and internal audit employees. Subsequently, data gathered from the last step of pilot study were inserted into the latest version of the Statistical Package for Social Sciences (SPSS) to check the constancy of the scales and to test reliability.

#### **4.6.6 Validity**

Validity is a crucial feature when collecting and measuring data. It is regarded as the standard that the research instrument is supposed to meet. This is because the ability to control the effects of extraneous effects and variables is part of any research project (Bryman & Bell 2015; Creswell & Clark 2018). Bryman and Bell (2015) point out that there are three types of validity: measurement or construct validity, internal validity and external validity.

Measurement or construct validity refers to the measurement questions measuring what they are supposed to measure (Bryman & Bell 2015). Internal validity refers to the ability of research design to demonstrate that the changes to the dependent variable stem from changes to the independent variable. To put it differently, internal validity refers to the degree of effect that the research design has on the outcomes of the research. Therefore, internal validity can be viewed as a mechanism which ensures that the research instruments or procedures do not have any influence on the findings and that the findings are based on the outcomes of the independent variable (Bryman & Bell 2015; Creswell & Clark 2018).

External validity refers to the generalisability of the findings to the broader population; it checks if the outcomes of the study hold for people from different areas as well as for different settings, times or places (Bryman & Bell 2015). External validity risk for behavioural research can be classified into two areas. The first is associated with certain conditions of the study, such as where the study was conducted or the time of the data collection. The second is related to different aspects of the participants (Bryman & Bell 2015).

#### **4.6.7 Reliability**

Reliability can be viewed in terms of consistency, repeatability or stability. From a measurement standpoint, reliability refers to the ability to achieve steady and consistent results every time the same study is repeated (De Vaus 2013). Therefore, selecting the right methodology is important if the study is to be reliable. Bryman and Bell (2015) state that a questionnaire being easily understood is an example of reliability.

In this study, a set of statements to measure each variable was used to improve reliability (De Vaus 2013). Internal consistency will be examined the reliability of the instrument based on the reliability of items. Cronbach's alpha is a test that is frequently used to measure the internal consistency of a set of components (Bryman & Bell 2015). The test calculates the average inter-item correlation; it uses prevalent correlations to ensure that the same concept is measured by each set of questions (Bryman & Bell 2015; Creswell & Clark 2018).

In this study, Cronbach's alpha exceeded .988 for all variables. This high result means there was a strong level of internal consistency between measures. Table 4.7 presents the Cronbach's alpha result for each variable (see Appendix F for further details).

**Table 4.7: Reliability Analysis Using Cronbach's Alpha**

<b>Constructs</b>	<b>No. of Items</b>	<b>Cronbach's alpha</b>
TMS	6	.896
OC	19	.965
IND	9	.944
MOTI	10	.939
COMP	6	.883
IAE	15	.979

Source: Researcher's own construction

As can be seen in Table 4.7, all values were greater than .7. Therefore, no items were removed from the scales.

#### **4.6.8 Questionnaire Sample Size and Sampling Procedures**

Sampling is a process in which a sub-set of the target population is selected to make observations and statistical inferences regarding the broader population (Smith 2017). Zikmund et al. (2013) provide a similar definition, viewing it as a useful technique for gaining research information from only a representative section of the population. This allows the researcher to generalise the outcomes of the sample back to the larger population.

Black (2011) explains that purposive sampling involves choosing the study participants based on specific features that have been decided upon by the researcher. In this study, respondents from public sector entities were purposively selected because they would be the most likely to offer meaningful insights into the research phenomenon. Black (2011) conforms that a deeper understanding of the research phenomenon can be gained by choosing the most informative respondents. Since it would be difficult to cover the entire Saudi public sector, the study focused on 150 purposively chosen public sector entities with an established IAF.

Therefore, questionnaires were distributed to 150 managers of internal audit units in the Saudi public sector as well as 150 internal auditors from same organisations who were subject to audit by the GAB. Of the 300 questionnaires sent out, 290 valid responses were returned (145 from managers of internal audit units and 145 from internal audit staff),

yielding a response rate of 97%. Mihret (2010b) carried out a study in the Ethiopian public sector with a similar sample size of both directors of internal audit and internal auditors.

The researcher approached the GAB, requesting a contact list of government organisations subject to its audit and their location. Consequently, the GAB provided a list of government organisations such as ministries, independent bodies, local government and public institutions. There are 23 ministries situated in Riyadh, the capital of the country. These ministries have branches and departments disseminated around the country and all are subject to audit via the GAB. For the independent bodies, local government and public institutions, most of these government organisations are also situated in the capital or in other cities around the country. The researcher contacted and emailed several government organisations on the list and asked them about their existing IAFs. The researcher also visited and personally distributed the questionnaire to many government organisations in different cities across the country. If the IAFs did exist, as stated on the list, those organisations were included in the study whereas those without an IAF were excluded.

As mentioned earlier, both online and personally distributed questionnaires were used in the study. December 2019 marked the starting point of distributing the questionnaires, with the process lasting until February 2020. For the online questionnaires, the researcher benefitted from Victoria University's Qualtrics Survey Software to distribute the questionnaires. This cost-effective method of distribution enabled the researcher to reach a higher number of government organisations and thus increase the research participation rate. Since the confidentiality and anonymity of the participants were guaranteed, the number of responses gathered from the online questionnaires was maximised. Lastly, several studies indicate that the public and private sectors in Saudi Arabia are more willing to respond to online questionnaires compared to other methods of survey (Al-Maotaz 2003; Al-Twajjry 2000; Alzeban 2010).

However, the technique of personally distributing and administering the questionnaires proved to be the most effective way of gathering data from the respondents and it therefore had a significant effect on increasing the response rate. The researcher visited several government organisations and explained the objectives and purpose of the study to potential participants. The potential participants were given the assurance that their responses would remain confidential and that their identity would remain anonymous. A

letter from the Saudi Arabian Cultural Mission was provided for some government organisations, which facilitated the process of handing out the questionnaires and motivating the respondents to answer every question (see Appendix C). Thereafter, questionnaires were distributed to those individuals who had agreed to participate. The researcher used an iPad to ensure that all the questions were answered.

By contacting the IAF managers directly, the researcher was able to explain that the questionnaire should be completed only by the manager of internal audit unit and one internal audit staff member. Two distribution methods were used: (i) in person via iPad, where the manager of internal audit unit was given the iPad to complete the questionnaire and then handed it over to an available internal audit staff member in their department and; (ii) via email, when this was the preference of the internal audit department manager. The researcher would then send the questionnaire to the email address provided by the manager of internal audit unit, who would forward it to an available internal audit staff member. Distribution via email took considerably longer in terms of response and the completion rate was lower compared with the personal distribution method. Questionnaires were sent to 150 managers of internal audit units and 150 internal audit staff in 150 public-sector organisations, which included ministries, independent agencies, local governments and public institutions. Of these 300 questionnaires, 290 valid responses were returned—145 from managers of internal audit units and 145 from internal audit staff—which was a 97% response rate (see Chapter 6 for further details).

#### **4.6.9 Quantitative Data Analysis**

The online and personally distributed questionnaires aimed to gain data on the internal audit practices in the Saudi public sector. The questionnaire addressed the main research questions, to obtain the perceptions of a large sample on three external factors (top management support, organisational culture and independence of internal audit) and four internal factors (motivation of internal audit staff, size of internal audit team, utilisation of IT and competence of internal auditors). These seven factors combined constituted the independent variables of the study. They were measured to verify how they affected the dependent variable, internal audit effectiveness.

Two types of quantitative data analysis were used—descriptive statistics and inferential statistics. SPSS version 26 and Excel were used for the data analysis. Lowry (2014)

defines descriptive statistics as a method to organise and summarise data. This can be done in variety of forms, including tables, graphs or charts. It also involves the calculation of statistical indicators, including frequency, percentage, mean and standard deviation.

To make inferences about a population, inferential statistics take a random sample of data extracted from a population. Lowry (2014) emphasises that inferential statistics are particularly useful when it is not possible or convenient to examine all members of a population. Moreover, data are analysed for response frequencies, normality and correlation and regression analysis.

This study OLS regression to analyse the data. As a robust statistical method, OLS regression is used to estimate the association between one or more explanatory variables and a criterion variable. The method minimises the total sum of the squares in the difference existing between the anticipated and observed values of the criterion variable, which is configured in the form of a straight line to estimate the underlying relationships (Field 2017; Pallant 2020). Through continuous development, the OLS regression framework is capable of fitting any type of dataset as long as adequate measurement is carried out and the available data points for estimation are sufficient. This feature of adaptability is a significant advantage of using this framework (Cronk 2019). Therefore, this study implemented two OLS regression models to achieve the research objectives and answer the research questions (see Chapter 1). The first model was used to estimate the relationship between external factors (i.e., three external independent variables) and internal audit effectiveness (i.e., dependent variable); it also helped to determine the external factor with the most significant impact on the effectiveness of internal audits in the Saudi public sector. The second model was utilised to examine the relationship between internal factors (i.e., four internal independent variables) and internal audit effectiveness (i.e., dependent variable); it also helped to identify the internal factor that has the greatest impact on internal audit effectiveness.

#### **4.6.10 Path Analysis**

The connections between the variables were measured using a path analysis, which extends beyond a traditional OLS multiple regression. A path analysis can provide quantitative estimates of the causal links between sets of variables (Garson 2013). In this study, several multiple regressions were performed to examine external factors. Every

variable in the first OLS model was included as a dependent of the other variables. Moreover, several multiple regressions were performed to examine internal factors. Every variable in the second OLS model was also included as a dependent of the other variables.

There are several advantages to path analysis. For instance, this method makes it possible to estimate the relative significance of alternative impact paths and it measures the direct and indirect (i.e. mediating) influences among variables. While providing an overview of the covariance of direct and indirect impacts, the method also generates a causal association pattern that can be tested for fit using a theoretical model. The ability to test individual parameters as well as overall models is another advantage of path analysis.

Moreover, this method makes it possible to test models with multiple dependent variables. It also allows more than one mediator variable (process) to be modelled simultaneously (Garson 2013; Lleras 2005). However, there are also disadvantages to path analysis, notably, the issue of multicollinearity. It not feasible to fully determine the proportion of variance in the model when variables are closely correlated (multicollinearity). It is also not possible to determine the slight changes that might be caused by significant changes to the magnitudes of the regression coefficients. The model used in the current study had an acceptable level of correlation among variables and there was a high level of confidence that the problem of multicollinearity did not invalidate the reported outcomes or their interpretation (Garson 2013; Lleras 2005). The multicollinearity factors such as the variance inflation factor (VIF) and tolerance are detailed in Tables 6.19 and 6.20.

The path analysis technique has been used by Alzeban and Gwilliam (2012) to examine the association between variables in a study on internal audit effectiveness, which is similar to the current study. According to Alzeban and Gwilliam (2012), path analysis is not a new method; however, it has only been used in the internal audit area in their study. Therefore, the current study is the next to use this particular methodological technique.

#### **4.7 Ethical Aspects**

Prior to collecting the data, an application for ethical research involving humans was submitted to the Victoria University Human Research Ethics Committee, in accordance with university policy. Approval was granted to application ID number (HRE19-084).

Following this, approval was also obtained from the top management of the organisations participating in the interview and the survey.

Confidentiality and informed consent are two important requirements of studies of this nature (Corti, Day & Backhouse 2000). The primary objective of the confidentiality clause is to provide participants and their respective organisations with the sense that participating in the study would not lead to any breach of information. As indicated by Legard, Keegan and Ward (2003), taking a strong stance on confidentiality eliminates fear of any repercussions, helping to open up participants and promote cooperation. In gathering data, privacy and security of information were important areas of concern in this study.

#### **4.8 Conclusion**

In this study, a mixed methods approach was used to answer the research questions. This approach provided a more holistic picture than using only one approach. Triangulation was also used to ensure greater validity and reliability. The chapter described the research design and research approach, which consisted of qualitative and quantitative techniques. Details concerning the interview and questionnaire procedures were also presented in this chapter. The pre-testing and pilot study of the questionnaire were then described. The next chapter presents the qualitative findings of the study.

## Chapter 5: Qualitative Findings

### 5.1 Introduction

This chapter presents the study's qualitative findings. It describes the data gathered through interviews conducted from December 2019 to February 2020 from 12 managers of internal audit units, 12 internal audit staff and 12 employees of the GAB who work as external auditors. A total of 36 face-to-face semi-structured interviews was analysed and coded, as shown in Table 5.1. The interviewees positions, gender and their type of public sector organisations are presented in Table 5.2. The interviews were analysed thematically as described in Chapter 4.

This chapter begins by describing the objectives of the interviews. It highlights the key findings from the interviews with managers of the IAFs and the internal auditors. The key findings from the interviews with external auditors are then described and summarised. The chapter then highlights the findings from interviewees to improve the effectiveness of internal audit units in the Saudi public sector.

**Table 5.1: Type and Number of Interviewees, Length of Interviews, and Codes**

<b>Interviewees</b>	<b>Number of Interviewees</b>	<b>Length of Interviews</b>	<b>Codes</b>
Managers of Internal Audit Units	12	30–35 minutes	MIA1, MIA2, MIA3, MIA4, MIA5, MIA6, MIA7, MIA8, MIA9, MIA10, MIA11, MIA12
Internal Auditors	12	30–35 minutes	IA1, IA2, IA3, IA4, IA5, IA6, IA7, IA8, IA9, IA10, IA11, IA12
External Auditors	12	30–35 minutes	EA1, EA2, EA3, EA4, EA5, EA6, EA7, EA8, EA9, EA10, EA11, EA12

Note: Managers of Internal Audit Unit were coded from MIA1 to MIA 12. Internal Auditors were coded from IA1 to IA12. External Auditors were coded from EA1 to EA12.

**Table 5.2: Interviewees Positions, Gender and Type of Public Sector Organisations**

<b>Interviewees Positions and their Coded</b>	<b>Gender</b>	<b>Type of Public Sector Organisations</b>
3 managers of internal audit units (MIA6, MIA11 and MIA12). 3 internal auditors (IA6, IA11 and IA12).	4 male 2 female	3 ministries
4 managers of internal audit units (MIA1, MIA3, MIA4 and MIA8). 4 internal auditors (IA1, IA3, IA4 and MIA8).	7 male 1 female	4 independent agencies
2 managers of internal audit units (MIA2 and MIA5). 2 internal auditors (IA2 and IA5).	4 male N/A female	2 local governments
3 managers of internal audit units (MIA7, MIA9 and MIA10). 3 internal auditors (IA7, IA9 and IA10).	5 male 1 female	3 public institutions

## 5.2 Objectives of Interviews

Data were collected via interviews to obtain information that cannot be captured in a questionnaire. The interview data were expected to complement the questionnaire data administrated later to provide a more in-depth examination of the phenomenon under investigation. The interviewees included managers of IAFs and internal audit employees from the same government organisations. Interview data were expected to identify the nature and extent of the influence of external and internal factors on the effectiveness of internal audit, in line with the resource-based theory. External factors were those outside the control of IAFs in the Saudi public sector. These included top management support, organisational culture and the independence of internal audit. Internal factors were those within the control of IAFs. These included motivation of internal audit staff, size of the

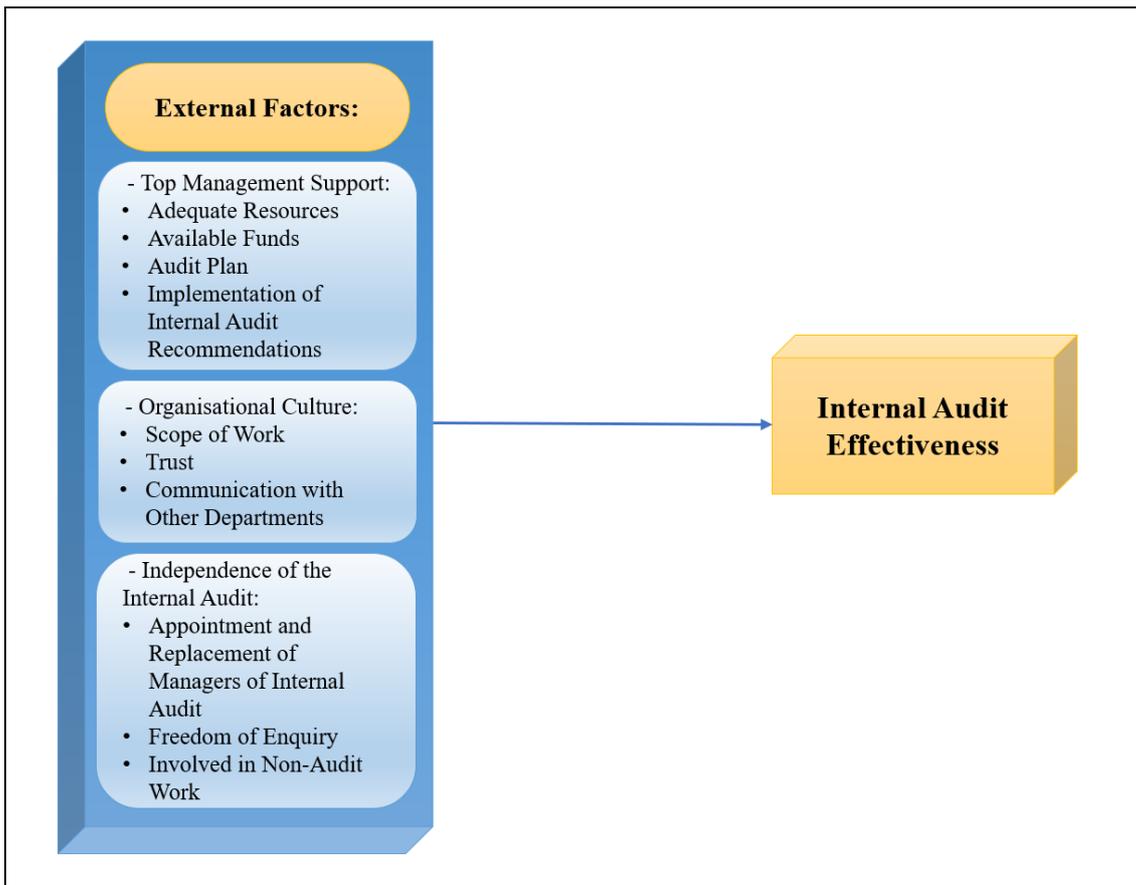
internal audit team, the utilisation of IT and the competence of internal auditors. The external auditors in the interviewee sample were expected to provide information about why internal audit departments were only implemented in some, and not all, government organisations.

### **5.3 Key Findings from Interviews with Internal Audit Unit Managers and Staff**

This section describes the findings of the 24 semi-structured interviews with 12 managers of internal audit units and 12 internal audit staff. The interviewees indicated that multiple external and internal factors impacted internal audit effectiveness in the Saudi public sector. These factors are identified in the following sections.

#### **5.3.1 External Factors Impacting Internal Audit Effectiveness**

External factors are those within the external boundaries of the internal audit department that impact internal audit effectiveness in the Saudi public sector. The data from interviews with internal audit department managers and employees identified three external factors as themes impacting internal audit effectiveness, in line with resource-based theory. These were top management support, organisational culture and the independence of internal audit. The interview data also revealed indicators as additional sub-themes associated with each of these factors. Figure 5.1 shows the three external factors impacting internal audit effectiveness and their associated indicators.



**Figure 5.1: External Factors Impacting Internal Audit Effectiveness**

#### *5.3.1.1 Top Management Support*

The extent to which top management supports the IAF is one of the most crucial external factors affecting internal audit effectiveness (Bednarek 2018). Al-Twajjry et al. (2003) state that management support and the quality of the internal audit have a positive and remarkable impact on the overall success of IAFs. According to Onumah and Yao (2012), When top management supports the internal audit department, certain tasks can be accomplished in an organisation such as a reviewing compliance with laws and regulations, assessing risks, monitoring of internal control, reviewing operating activities, and examining financial information.

The following section describes the views of the managers and staff of IAFs in the Saudi public sector on top management support for internal audit. Indicators of top management support include adequate resources, available funds, an audit plan and the implementation of internal audit recommendations.

#### 5.3.1.1.1 Adequate Resources

Adequate resources for IAFs in the Saudi public sector are the first indicator of top management support. According to Cohen and Sayag (2010), an internal audit department's productivity is limited when it lacks sufficient resources. Brierley et al. (2001) agree that IAFs need equipment and resources, which must be provided by top management, to perform their duties effectively. Drogalas, Karagiorgos and Arabatzis (2015) state that when IAFs have appropriate resources, internal auditors can provide top management with honest opinions and unbiased information.

However, most of the interviewees indicated that top management failed to provide IAFs with the necessary resources to do their jobs successfully. In fact, the findings indicated that the internal audit departments lacked equipment and supplies.

The lack of a positive work environment, the lack of computers and a shortage of qualified staff were also identified as problems in certain IAFs. For example, in some cases, top management failed to provide laptops and vehicles for the internal audit department, forcing staff to use personal laptops and private vehicles for field visits, without reimbursement for costs. This implies that, unlike countries where internal auditors are usually reimbursed for using their own means and equipment to perform fieldwork, the majority of the interviewees here reported that internal auditors are usually not reimbursed when they use their own means and equipment to travel and perform activities in the field. The participants' concerns are expressed below.

The basic environment is inadequate and our department lacks tools and supplies. For example, if we need printers or computers or laptops, we must submit a request through the purchasing department; they have to submit a request, too and it takes a long time to get the office supplies (MIA4).

We do not have the resources, tools or supplies that we need for our work. These forces us to wait and stop working and [it] affects our productivity ... You can see, our internal audit department does not have the appropriate resources or a good work environment. We have no provision for resources, funding or staff (MIA9).

We have to use our personal laptops when we visit our branches and departments. No computers are provided by the organisation for a number of internal audit staff (MIA10).

However, some of the participants indicated that they did receive enough support from top management.

Top management helps us in many ways. They provide us with all the things the internal audit department needs, including resources, funds and employees (MIA12).

As we expected, top management provides good support. They provide appropriate resources and the internal audit department has sufficient offices and staff (IA12).

#### 5.3.1.1.2 Available Funds

The availability of funds for IAFs was the second indicator of top management support. This support is reflected in the allocation of an adequate budget (Alzeban & Sawan 2013). Tackie et al. (2016) suggest that internal auditors, even those with independence, cannot do their jobs properly without a reasonable budget. According to Drogalas, Karagiorgos and Arabatzis (2015), allowing the internal audit department to allocate its own budget could improve the effectiveness of the IAF. In addition, receiving budget approval from top management, coupled with moral and physical support, encourages internal auditors to work more effectively (Christopher, Sarens & Leung 2009).

However, the interview data indicated that adequate funding was often lacking. Most participants indicated that the IAFs had insufficient funding, which reduced their effectiveness. According to most of the interviewees, Saudi internal audit departments suffered from a lack of support, communication and cooperation from top management. They often received no funding allocation or special budget; and even when budgets or funds were approved, top management often failed to honour these approvals immediately.

The poor relationship between top management and IAFs may contribute to this lack of funding (MIA4 and IA2). In some cases, top management must deal with inadequate funding overall (IA2). The limited budgets of internal audit departments may result in staff using their own cars to conduct fieldwork, often also carrying the cost of gasoline themselves. This influences the effectiveness of internal auditors in the Saudi public sector, as highlighted by several interviewees.

Top management assists us, but it is still not enough. Some funding is provided, but there is no special budget; we have to use our own cars and pay gasoline from our own

pockets to do fieldwork ... If there were a special budget, it would help with gasoline costs at least (MIA10).

Internal audit funding is normally received by the manager of the internal audit unit at the beginning of the year. The budget is small and it is not enough for an internal audit unit in an organisation this large to work effectively (MIA7).

However, one participant indicated that top management did provide adequate resources.

Top management supports the internal audit department in its duties and responsibilities. They help us in many ways. We have everything we need in the internal audit department; top management provides it for us. We have appropriate resources, funds and employees (IA12).

#### 5.3.1.1.3 Audit Plan

An audit plan designed by the internal audit department was the third indicator of top management support. The IAF should start the year by devising an audit plan to identify targets, strategies and the work to be done that year (Drogalas, Karagiorgos & Arabatzis 2015). According to Van der Schyf (2000), having an appropriate plan in place allows internal audit departments to complete more audits within a fixed period by boosting efficiency.

Interviewees were asked how the IAF prepared the audit plan, who carried out the auditing tasks and how the audit plans were submitted to the top officials for approval. The interview data showed that internal audit departments had annual audit plans; internal audit managers were responsible for those plans. The completed audit plan was submitted to the top officials for approval; once approval was granted, the IAF implemented the plan. However, there were no regular meetings with the top official to discuss the audit plan and often, only part of the audit plan was carried out. Thus, perhaps only one or two departments were visited and audited (IA1 and IA4). One internal audit staff member explained the following:

The internal audit department carries out tasks based on this audit plan after the approval is received from the top official. Then, the internal audit department sends a copy to the other departments informing them about the audit plan and dates. Sometimes only some of the work is done because of a lack of cooperation from

management and other departments ... they don't cooperate and other departments don't submit the documents to us at the specified time (IA11).

Lack of cooperation and delays were found to hinder the audit departments from carrying out audit plans in their entirety. Sometimes the plan was not approved by the president of the organisation or the annual audit plan had to be amended (IA2). In other cases, a lack of cooperation from other departments, a lack of understanding of the role of the IAF, a lack of response and difficulty accessing documents compounded the work of the internal audit department, causing inefficiency and ineffectiveness (IA2 and IA3). Only one interviewee indicated that the internal audit unit manager prepared and discussed annual audit plans with the top official every six months. The manager then guided the internal audit team to conduct fieldwork and implement the audit plan in the organisation (IA9). The majority of the interviewees also reported that some of their activities are not in line with auditing standards. The interviewees alleged that internal audit plans are usually not directly linked to the Internal Auditing Standards due to the involvement of non-audit activities.

#### 5.3.1.1.4 Implementation of Internal Audit Recommendations

Implementation of the recommendations of internal audit departments was third indicator of top management support. According to Alzeban and Gwilliam (2014), internal audits enable internal audit managers to perform their tasks and provide upper management with sufficient, reliable, relevant reports describing the details of the work done and their recommendations and conclusions. According to Ahmad et al. (2009), the implementation of internal auditor recommendations is highly significant as it reflects management support for internal auditing processes. An organisation's management can be considered the customer that receives the services provided by the internal audit unit. Hence, implementing audit recommendations represents a critical show of support for internal auditors (Mihret & Yismaw 2007). Therefore, when management recognises the value of the IAF by accepting and implementing internal auditors' recommendations, internal audit effectiveness is enhanced (Van Gansberghe 2005).

However, the interview data revealed that internal auditor recommendations were often not implemented by top management or other departments. Most interviewees believed that a lack of trust and a lack of interaction between top management and the IAF were

to blame for this. The lack of good communication with other departments compromised the effectiveness of the internal audit department and this problem was compounded when other departments delayed their responses to internal auditors' requests.

Several interviewees indicated that only 20% to 30% of internal audit recommendations were implemented and that most recommendations were considered trivial or insignificant. Interviewees blamed the organisational culture and a lack of understanding and awareness of the internal audit department's role for other departments' failure to implement their recommendations (MIA1, IA1, IA2 and IA10). Others complained that other departments ignored the recommendations of the internal audit manager, saying that they did not understand the work of the IAF (MIA4, MIA6 and IA11). Since top management failed to take internal audit units' recommendations seriously, some interviewees consider recommendations a waste of time (IA3 and IA9).

I think that the main issue that the internal audit department faces is the ignorance of the highest official ... Other departments and employees don't understand the role of the internal audit department, which affects the implementation of internal audit recommendations (MIA6).

Many internal auditors' recommendations are not implemented because top management does not trust internal auditors' competence (IA6).

Top management and other departments lack knowledge about internal audit works and misunderstand the role of the internal audit department. So, they don't consider internal audit recommendations important. Top management and other departments don't pay attention to recommendations or take internal audit recommendations seriously (MIA5).

It seems the minister does not care about or is unaware of the findings of the internal audit and his attention to internal audit recommendations depends on his mood (MIA11).

However, some interviewees indicated that their recommendations were supported and taken seriously by top management. They believed the problem resided with other departments that did not take the recommendations seriously and made no effort to change or improve their performance. Some interviewees added that most of their

recommendations had been implemented and supported by top management (MIA7, MIA12, IA7 and IA12).

### *5.3.1.2 Organisational Culture*

This section analyses the effect of organisational culture, as an external factor, on internal audit effectiveness in the Saudi public sector. Organisational culture influences internal audit effectiveness (CIIA 2014). IAFs are expected to promote a culture of collaboration and team work with management and other departments. They must earn the trust of management and other departments to access hard data and other information (CIIA 2014). Individual behaviour can improve trust; however, negative attitudes and behaviour of employees (including management) towards IAFs can impede internal audit effectiveness (Dicle & Usluer 2016).

The following section describes the views of internal audit managers and employees on organisational culture as an external factor affecting internal audit effectiveness. Three indicators were used to describe organisational culture: scope of work, trust between departments and communication with other departments.

#### *5.3.1.2.1 Scope of Work*

The scope of internal audit work is the first essential attribute of organisational culture and it can strongly influence internal audit effectiveness. Silva, Inácio and Vieira (2019) provide a detailed description of the scope of internal audit work, which consists of operational efficiency and effectiveness; credible, high-quality financial statements; fraud prevention and detection; and compliance with rules and regulations. This definition is reiterated by Kwon and Banks (2004), who point out that an internal audit does much more than simply detect fraud; it also undertakes internal control, assesses the accuracy and appropriateness of financial reports, ensures compliance with relevant rules and regulations and ensures that an organisation's economic resources are efficiently and effectively used. According to Chartered IIA (2014), the scope of internal audit work should be extended to include organisational culture. When working with management and/or other departments, an internal audit should take measures to identify the scope of work and to evaluate the degree of collaboration; this can be seen as a novel task for an internal audit. In order to accomplish this, it is necessary for the internal audit staff to understand the scope of work and to establish effective teamwork and high-level

collaboration within the existing organisational culture to perform their audit engagements and accomplish all of their goals in a more straightforward manner. Al-Twajry et al. (2003) and Alzeban (2015a) further proposed that as it relates to the scope of internal audit work, a supportive culture within an organisation enhances an internal auditor's ability to carry out their duties in an effective manner.

The interview participants indicated that internal audits had a broad scope. However, organisational culture did not support the IAF, which meant that the nature of internal audit work was often not fully understood and there were no internal policies guiding the work of the internal audit department. The annual audit plan also falls under the scope of audit work; it usually needs to be approved by top officials. Several interviewees indicated that their work included reviewing warehouses, invoices and account statements; supervising the use of organisational assets such as cars and trucks; and maintaining and ensuring compliance with contracts.

The internal audit department audits warehouses and reviews the warehouse systems, especially miscellaneous exchange orders. It also checks inside and outside inventory quantities in the warehouses (MIA6).

The scope of the internal audit department's work also included fieldwork and visits to other departments to carry out financial audits (MIA3 and IA1); internal control work; verifying compliance with regulations and policies; and monitoring and auditing financial and operational performance.

The internal audit department reviews compliance with regulations and policies, as well as reviewing processes and programs to ensure that they are compatible with the organisation's goals and objectives (MIA10).

The internal audit department helps oversee the internal control system, assesses risks and compliance with rules and regulations and improves the organisation's performance (MIA4).

We [internal auditors] review amounts and expenses to ensure they were spent as they were supposed to be. We have to follow up and review items and transactions. The internal audit department makes sure the other departments are following the correct policies and procedures (MIA3).

However, some interviewees complained that despite the broad scope of their work, their actions were restricted by a lack of awareness of the role of the IAF.

The internal audit department reviews the smallest details in the organisation and the whole system to improve supervision and ensure adherence to rules and regulations, but, unfortunately, many departments are unaware of the role of the internal audit department and that limits our effectiveness ... we also review several of our own branches and visit them to see how their work is progressing, but we can't do all of these things because of staff shortages (MIA2).

Further, an unsupportive organisational culture and the lack of clearly defined roles and tasks for the internal audit department, along with a lack of support from the GAB, limited the ability of IAFs to perform their work effectively. Most interviewees complained that their scope of work was restricted by a range of problems, including the confidentiality of documents and contracts, the inability to access women's areas and a lack of full authority to carry out their work.

There are some documents that the internal audit staff cannot see and review, such as contracts. These are considered confidential, so we have difficulty accessing them (IA6).

The scope of the internal audit department's work is restricted. There are some departments that internal auditors cannot review because internal audit staff lack the authority to review these departments (IA7).

Our role is restricted. The university has many campuses for women and the internal audit staff are not allowed to conduct fieldwork there because all six employees are men and are not allowed on these campuses. In general, male employees cannot enter women's campuses (IA10).

#### 5.3.1.2.2 Trust

Trust between the internal audit department and other departments is essential and has a major impact on internal audit effectiveness. Dicle and Usluer (2016) and Lenz and Hahn (2015) report that an organisational culture of trust plays a significant role in internal audit effectiveness. Ambiguous roles and individual conflicts within an organisation negatively influence internal audit effectiveness (Lenz & Hahn 2015). Moreover, low levels of trust

can lead to major issues in an organisation. Al-Twaijry et al. (2003) emphasise the impact of trust and cooperation among different departments on the success of internal audits.

The interview findings indicate a lack of trust in internal audit departments as well as a lack of interest in the IAF's role. This can restrict the internal audit department's ability to access the documents and records that they need to conduct their work effectively (IA10, IA6 and IA9). Organisational culture can undermine information-sharing with IAFs, leading to a lack of trust, communication and cooperation between the internal audit unit and other departments.

This lack of trust may also contribute to unwillingness on the part of the IAF to discuss audit findings with audited departments, especially when an internal audit uncovers errors connected to the organisation's culture. The majority of interviewees believed that lack of cooperation with the internal audit department occurred because of a lack of confidence in internal auditors' findings, concerns about confidentiality and a lack of auditor empowerment. This resulted in a lack of trust in internal auditors.

It is hard to say that there is a high level of trust and cooperation between the internal audit unit and other departments in the organisation (MIA9).

Honestly, I deal with different types of auditee departments in the organisation. Some auditee departments are wary of watchdog-type internal auditors. This type of auditee usually has a negative attitude toward us. Other auditees ask about my professional qualifications and abilities, but the rest are polite. Since I deal with so many different types of auditees, I try to convince my auditees that I am there to assist them. I also make it very clear that I have a professional certification. So, I always try to get closer to them and to gain their trust (MIA4).

Other departments do not make use of the internal auditor's findings because they think that these findings are useless or unimportant (IA6).

We [internal auditors] tell the other departments and employees that we are in the same boat here due to a lack of trust. We also try to give them an overview of IAFs so they will trust us and cooperate with us (IA10).

### 5.3.1.2.3 Communication with Other Departments

Communication between internal audit departments and other departments is another attribute of organisational culture that can significantly influence the effectiveness of internal audit. Effective communication and teamwork between internal audit departments and other departments are essential to high-quality service (Mihret & Yismaw 2007). According to Brierley et al. (2001), direct communication between internal audit units and other departments is crucial for the success of internal audits.

The interviews with managers revealed that some IAFs had good communication and relationships with other departments. One interviewee (MIA1) remarked that his department has a good work relationship with other departments and that he tried to encourage cooperation among all departments. Two managers acknowledged that their internal audit departments have complementary, supportive work relationships with other departments.

The relationship is good because we have a supporting letter from the minister and we tell the other units we are here to correct mistakes, so we provide consulting and supportive administration for them (MIA12).

The relationship between the internal audit unit and other units is sometimes good, if they understand the role of the internal audit department and if the other units support and cooperate with us and if we communicate directly (MIA6).

However, most managers indicated that there was poor communication and cooperation between departments. Some of the managers linked this to a lack of awareness of the IAF's role; teamwork was required to achieve the organisation's goals. Some departments refused to cooperate with the internal audit department without supporting letters from top officials, as one manager explained.

There is a lack of understanding in the other departments; employees view the internal auditor as someone who's there to catch mistakes. We send a letter to the department informing them that we are going to audit them and we include supporting letters from the president with that letter. They're more likely to cooperate when they see a letter from the president (MIA2).

A lack of support from top management weakens internal audit units, making them ineffective, especially when conducting fieldwork, where problems may include a lack of cooperation and an inability to access documents. Poor work relationships between departments can even expose internal audit staff to threats.

Our relationship with other departments is terrible; it's really bad. We have problems communicating and setting meetings with the other departments. Internal audit staff are even exposed to threats from other departments and have had major problems (IA1).

Another challenge that internal audit departments face, aside from poor cooperation and communication, is the lack of clearly defined roles and tasks. Some departments viewed internal audit departments as 'spies' for the organisations' president.

The relationship is not good, because they think of internal auditors as police officers or spies and they think that internal auditors will tell the president of the organisation directly about any errors they find (MIA2).

There is a lack of cooperation and communication between departments. Communication between the internal audit department and other departments is avoided. The other departments think that we are spies for the president; they call us 'mistake trackers.' They think that we only come to find mistakes so we can tell the president (MIA4).

### *5.3.1.3 Independence of Internal Audit*

The section analyses the independence of the internal audit departments. Independence refers to internal auditors' ability to perform audit responsibilities and tasks without bias (IIA 2017). In an independent internal audit, internal auditors can state their opinions honestly without worrying that this honesty may pose a threat to their position (Asiedu & Deffor 2017; D'Onza et al. 2015; Shohihah, Djamhuri & Purwanti 2018). Internal auditors are expected to carry out their duties in an unbiased way, independent of the organisation's other operations and activities (Bou-Raad 2000; Cohen & Sayag 2010; Lenz & Hahn 2015). According to Arena and Azzone (2009), without independent internal audit departments, the desired outcome of internal auditing cannot be reached.

The following section describes the views of managers and employees of internal audit units in the Saudi public sector on the external factor of internal audit independence.

Internal audit independence is measured using three attributes: appointment and replacement of managers of internal audit, internal auditors' freedom of enquiry and internal auditors' involvement in non-audit work.

#### 5.3.1.3.1 Appointment and Replacement of Managers of Internal Audit

The independence of appointment and replacement of managers of internal audit is the first attribute of internal audit independence that affects internal audit effectiveness. Internal audit independence is enhanced when organisational leaders are involved in the hiring and firing of managers of internal audit units (Udeh & Nwadiolor 2016). Drogalas, Karagiorgos and Arabatzis (2015) point out that in Greek organisations, internal audit departments enjoy a high degree of independence because managers of IAFs need not worry that they will be removed from their positions if they or their staff express unbiased opinions.

The top officials of government organisations can hire and fire the directors of IAFs, according to the interviewed managers MIA1, MIA3, MIA4, MIA7, MIA8 and MIA12). Interviewees also indicated that IAF directors were usually hired and fired based on the recommendations provided by other managers in the organisation.

The minister has the right to appoint and dismiss the director of the internal audit department. Also, all internal audit directors in the ministry are hired by the minister (MIA12).

The general development manager recommends someone for the position of internal audit unit director to the minister and the minister approves his recommendation (MIA6).

The internal audit department works under the general financial manager, so he recommends someone to the president as director of the internal audit unit (MIA10).

#### 5.3.1.3.2 Freedom of Enquiry

Unrestricted access to documentation and transactions is the second attribute of independence that affects internal audit effectiveness. Internal audit independence is about auditors' freedom to perform their duties, responsibilities and tasks without any hindrance (Shohihah, Djamhuri & Purwanti 2018). According to Arena and Azzone (2009), the effectiveness of internal auditing depends on the department's unrestricted

access to all necessary documents, records, employees and properties. Mihret and Yismaw (2007) suggest that the position of internal auditors is strengthened if internal auditors have full and unrestricted access to other departments and to all areas of the organisation.

In the interview data, several factors emerged that hindered the freedom of IAFs in Saudi Arabia. Most interviewees mentioned difficulty accessing data and obtaining documents. Other departments did not understand the role of internal audit and failed to cooperate with them, making it difficult or impossible for internal auditors to access documents and records. For example, one manager (MIA10) mentioned difficulty accessing documents because most were confidential and could not be reviewed by internal auditors. This obstacle hindered internal auditors' fieldwork.

It's difficult to access documents and information from other departments for an audit ... it's difficult to obtain entire documents and some departments have no databases or information systems. These issues make our work difficult and our annual plan is delayed when we need to deal with these departments (MIA3).

Other departments do not allow us to review all the necessary documents as they say the documents contain organisational secrets. To provide us with documents and records, they [the other departments] request a letter from the top official (IA7).

Collaboration between units can also make it difficult for internal auditors to access confidential documents and records without supporting letters from the president (MIA6). The findings show that internal auditors in the Saudi public sector did not have sufficient independence and that existing regulations were inadequate to empower auditors to carry out their tasks without interference. Some of the interviewees also commented that their work was limited because they were only assigned to financial and accounting tasks that usually fell outside the responsibilities of internal auditors. Some managers from different units also influenced IAF managers regarding internal audit tasks.

Independence is not sufficient because some departments are involved in our work, which influences our internal audit reports. Managers of other departments may influence the internal audit manager's decisions. We [internal auditors] see that there are some people who can influence the decisions of the director of the internal audit (IA1).

I think that there are issues with unrestricted access, non-audit activities and relationships with other departments in the organisation. Interference from other departments also impacts internal audit independence (IA6).

The findings indicate that there are conflicts of interest between individuals in some departments; these conflicts hinder the independence and effectiveness of the internal audit department. In some cases, internal auditors could not review or audit accounts in departments where a manager's relatives were employed (IA2 and IA3). Many internal auditors believed that internal audit departments were not free to express their opinions in their organisations (IA1, IA5, IA8 and IA10). For example, some internal auditors feared to freely state their opinions when auditing the human resources department or the financial department because they were afraid of losing their chances of promotion or of losing overtime assignments and pay.

The internal auditors cannot report any errors when we are reviewing the human resources and financial departments. This could impact us in terms of promotions and overtime assignments and pay. Also, we cannot easily review everything in these departments (IA1).

A small number of the interview participants confirmed that they could obtain access to documents and records required for audits. Others indicated that they could access necessary documents, but only with a supporting letter from top management.

The internal audit department has sufficient access. If other departments refuse to provide the internal audit team with some documents, then the manager of the internal audit unit contacts the top official and informs him about it; he imposes his authority on these uncooperative departments (IA11).

The internal audit staff send a copy to the top official and representatives when we contact other departments. Then the internal audit staff encounter cooperation and easy access to records and documents, because the other departments know if they don't assist us, they will be investigated and punished (IA8).

#### 5.3.1.3.3 Involvement in Non-Audit Work

Involvement in non-audit work is another attribute of internal audit independence and therefore, internal audit effectiveness. According to Shohihah, Djamhuri and Purwanti (2018) and Cohen and Sayag (2010), internal auditors' involvement in decision-making

processes and non-audit activities jeopardises their independence because of conflicting interests. Assigning the responsibilities of the IAF and non-audit work originally linked with other departments within an organisation is poor practice; it is necessary to separate the functions of performance and review. The independence of internal auditors may be negatively influenced by this approach (Alzeban & Sawan 2013). The International Professional Practices Framework (IPPF) supports the argument that an internal auditor's objectivity can be impaired when they are involved in the design, setup and operation of the auditing systems. Their code of ethics also emphasises this point, as it states that internal auditors should not engage in any relationship or activity that could impair or that could be deemed to impair their ability to provide a disinterested evaluation (Institute of Internal Auditors 2017). According to the IPPF, in order to keep their level of independence high, auditors should not participate in any non-audit activities. Shohihah, Djamhuri and Purwanti (2018) and Mostafa, Hussain and Mohamed (2020) argued in order to ensure and maintain their independence, internal auditors should not be expected to take part in daily managerial work.

According to the interviewees, internal audit staff were often involved in non-audit work in their organisations and top management required them to not consider themselves as internal auditors if they performed these jobs. Involvement in non-audit activities may take various forms, including participating in department budgeting decisions, carrying out financial and follow-up tasks and covering absent employees in other departments. The interviewees provided examples of such non-audit activities expected of internal auditors.

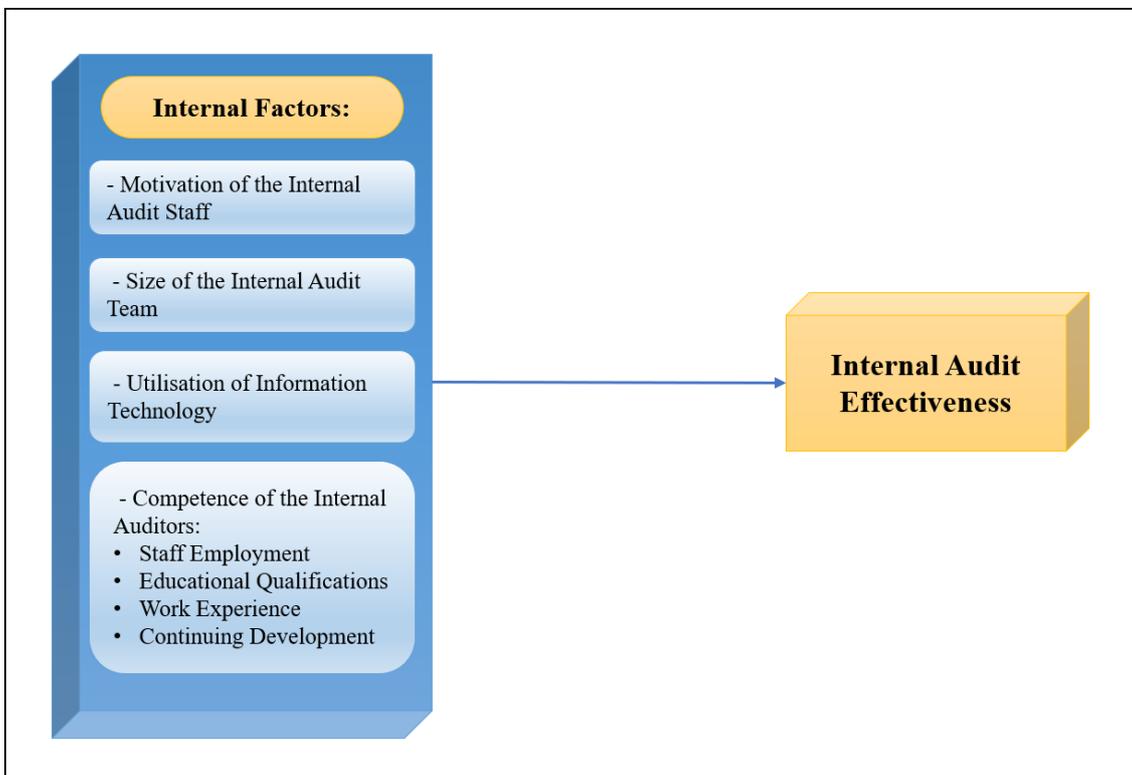
When one of the budget department employees was on a holiday for a month, the employee was replaced by one of our employees from the internal audit department (IA4).

Internal auditors perform non-audit activities in the organisation. If an employee in another department, such as the financial or follow-up department, is absent, then one of the internal auditors goes to cover the absent employee (IA1).

I have other duties to perform. I must do what the top management requests me to do. I cannot refuse a request from top management. Otherwise, I will be transferred to another department or maybe another branch in another city (IA2).

### 5.3.2 Internal Factors Impacting Internal Audit Effectiveness

Internal factors are those within the control of the internal audit department that impact internal audit effectiveness in the Saudi public sector. The data from interviews with internal audit department managers and employees identified four internal factors as themes impacting internal audit effectiveness, in line with resource-based theory. Figure 5.2 shows these four internal factors, which are motivation of internal audit staff, size of the internal audit team, utilisation of IT and competence of internal auditors. Additionally, the interview data identified indicators as additional sub-themes associated with one of the internal factors, for example, competence of internal auditors. This internal factor had additional sub-themes that emerged as an outcome of the analysis (see Table 4.2).



**Figure 5.2: Internal Factors Impacting Internal Audit Effectiveness**

#### 5.3.2.1 Motivation of Internal Audit Staff

Motivation is an internal factor that plays an important role in an internal auditor's productivity. In the context of satisfying employee needs, Kulchmanov and Kaliannan (2014) suggest that an adequate salary is a key factor motivating employees to remain at their respective organisations. Dobre (2013) mentions that businesses around the world use a number of tools, including periodic salary rises, bonuses and promotions, to improve

employee performance and maintain long-term motivation. Brierley et al. (2001) note that in the Sudanese public sector, the key barrier to internal audit effectiveness is a lack of motivating factors such as augmented compensation, overtime and additional benefits.

The interview data highlight several factors that contributed to a lack of motivation in Saudi internal audit departments. A number of interviewees noted that internal audit staff received no financial motivation, although they worked hard to uncover significant financial errors, saving the government large amounts of money (MIA1, IA1, IA2, IA3 and IA6).

Many employees had resigned and taken up for jobs in the private sector or in other government departments because of a lack of motivation. In some cases, internal audit staff were not even welcome in their own organisations (MIA11 and IA10). According to some of the interviewees, the IAF deserves more financial compensation than other departments. Without this, some interviewees conveyed that they had requested transfers to other departments but were refused (IA7, IA9 and IA11). Several interviewees indicated they received no extrinsic motivation in the form of bonuses, overtime or special allowances. A poor work environment, the lack of company cars, a shortage of employees and difficulty attracting qualified employees were also mentioned as sources of low motivation.

There is no motivation for internal auditors ... it's difficult to get overtime and promotions ... we don't get any motivation, whether financially or just in the form of appreciation. We have found mistakes and helped the organisation save large amounts of money. And those mistakes were identified after a great deal of work. In the end, the organisation does not motivate us or encourage us to do this work (IA2).

I want to transfer to another department. I have lost a lot of friends and have had conflicts and problems with other departments because of this work. At the end, there is no motivation for me to keep working in the internal audit department (IA10).

Internal audit department staff are working so hard. However, salaries are still low and internal audit employees rarely receive overtime. There is also a lack of motivation in terms of incentives. Therefore, the internal audit department is losing good employees, who go to private sector for better salaries and standards of living (IA11).

The department does not have a car and we sometimes have to pay to for rental cars ourselves to visit and audit other branches (IA6).

There is no motivation for internal audit department employees, whether tangible or intangible. It's difficult to get overtime and outside assignments, which affects employee productivity (IA3).

### *5.3.2.2 Size of the Internal Audit Team*

The section analyses the size of the internal audit team, another internal factor impacting internal audit effectiveness. Internal audit departments with sufficient resources and staff are more effective (Ahmad et al. 2009; Alzeban & Gwilliam 2014; Salehi 2016). Arena and Azzone (2009) report a strong relationship between the size of the internal audit department and internal audit effectiveness.

Government organisations in the Saudi public sector have internal audit teams of varying sizes. The interview data indicate that the number of internal audit staff (whether male or female) is generally insufficient; this makes it difficult for staff to perform their tasks effectively. The lack of female internal auditors impeded the effectiveness of internal audit departments. This issue was raised by several interviewees. Saudi Arabia is a conservative country with a complex, male-dominated society, and traditions, norms and values are strongly influenced by ultra-traditional Islamic beliefs. As a result, women struggle to obtain public-sector appointments, which leads to the problem of male internal auditors being unable to access women's areas to perform audits. Furthermore, most of the interviewees believed that these issues could be addressed by increasing the number of female internal auditors employed by internal audit units.

We have a limited number of employees. It's difficult to audit more than 400 branches in all regions of Saudi Arabia with only a few internal auditors in this department. Every time we have requested more employees, top management hasn't even responded (MIA2).

We don't have enough auditors because the university is so large. I think that we need more employees because we cannot review all the campuses, branches and other departments. The university also has many women's university campuses and the internal audit staff are not allowed to do fieldwork there because all six employees are male, so they aren't allowed on the women's university campuses (IA10).

We need more women internal auditors to review the women's departments because we have only two women internal auditors and they are in different places. I mean in the women's buildings; as you know, women cannot be in the men's buildings or departments (IA4).

One interviewee also indicated that the lack of competent, specialised employees, such as engineers, accountants and financiers, reduced the effectiveness of IAFs.

There are ten employees and that's not enough. We need employees with different degrees; for example, we need engineers, accountants and financiers. We need employees with experience, especially in internal auditing. The organisations are big and we cannot audit entire departments with so few internal auditors (IA4).

However, a few of the interviewees indicated that their departments had enough employees to perform their tasks and responsibilities effectively.

We have enough internal auditors to carry out the required tasks and responsibilities effectively. The size of the department is appropriate for the number of departments and employees in our organisation (MIA12, IA12 and IA3).

### *5.3.2.3 Utilisation of Information Technology*

The section discusses the utilisation of IT, another internal factor impacting internal audit effectiveness. IT is an extremely important tool since it can save time and make audit processes more efficient (Curtis et al. 2009). Moorthy et al. (2011) discuss the enormous impact of IT on the ways organisations run their businesses, make decisions and improve efficiency. Abualgasim and Osman (2015) add that a sound understanding of the benefits of IT enables internal auditors to help organisations manage and respond to risk effectively. According to Moorthy et al. (2011), not only should internal auditors know how to use computers and automated systems for audits, but they should also understand the business purposes and operating environments behind these systems.

The interview data revealed that IAFs use specific software and auditing programs, including Excel, SPSS, Team Meets and GAS. These programs facilitate the work of internal audit staff, especially error discovery. However, one interviewee observed that the software used in their department was too basic and should be upgraded (IA11). An interviewee also noted:

We [internal auditors] use a special internal financial program to track implementation and spending on projects. This program was developed by the organisation. The program links to other departments so we can review transactions (IA2).

We use internal audit software to review other departments, but we have limited access to most transactions and documents. We use other programs for the audit process, such as the Audit Work Team program, General Audit Software and Excel (IA4).

Some study participants relayed that the new auditing program used in many IAFs linked directly to the GAB, although the internal auditors could not access all transactions. Some participants indicated that they had been adequately trained on the software in different workshops and courses (IA6 and IA8).

However, most of the interviewees complained that IAFs lacked specialised audit software. This complicated their work because they had to perform many auditing tasks manually.

The utilisation of IT is restricted to Word programs and Microsoft Excel, which we use to perform internal audit tasks. Internal audit staff use these programs to write internal audit reports for the organisation. We don't have access to any programs designed specifically for internal auditing (MIA3).

We don't have a good, appropriate work environment in terms of IT. We don't have access to specialised internal audit software and that affects internal audit work in the organisation. It takes a lot of time to perform our work manually (MIA7).

There are no specialised internal audit programs available to us, because top management does not provide them. Possibly, they don't know about these programs, or it may be because of the cost of these special programs (IA3).

We have access to IT resources such as desktop computers and laptops, but what we need now is specialised audit software. That would speed up our work, because our operations have increased over time and we have many other departments, too (IA7).

#### *5.3.2.4 Competence of Internal Auditors*

This section discusses the competence of internal auditors, another internal factor impacting the effectiveness of internal audits. Competence refers to the auditors' ability to diligently complete specific tasks according to professional principles and standards

(Drogalas, Karagiorgos & Arabatzis 2015). To be effective, internal auditors must have a basic level of competence so that they can complete tasks in a satisfactory manner (Mihret & Yismaw 2007). Al-Twajiry et al. (2003) also argue that employees and managers of internal audit departments play a vital role; if these employees lack essential competencies, this may decrease the effectiveness of internal audits.

This section describes the views of internal audit managers and employees in the Saudi public sector on the internal factor of competence. A number of indicators are used to measure competence: staff employment, educational qualifications, work experience and continuing development.

#### 5.3.2.4.1 Staff Employment

Staff employment procedures and criteria are the first important indicator of internal auditor competence. D'Onza et al. (2015) note that the level of competence possessed by members of staff plays a crucial role in internal audit effectiveness. Therefore, internal auditors must have the proper competencies to perform their work adequately. This is further supported by Al-Twajiry et al. (2003) and Okodo, Aliu and Yahaya (2019), who state that the recruitment of internal audit staff must be supervised by members of the IAF to ensure that candidates possess the right knowledge and skills.

The interview data show that various criteria were used to determine the suitability of candidates for employment in the audit department. The human resources department usually determined the requirements for audit department staff, in accordance with the internal audit regulations established by the GAB (MIA2). Though education is one important qualification for employment, the interviewed managers explained that candidates for employment must possess certain personal characteristics—they should be proactive, independent and open-minded and they should have a solid work ethic and good communication skills (MIA3, MIA5, MIA6, MIA8 and MIA9).

The candidate must have a bachelor's degree and experience. There are some features that we look for, such as open-mindedness, a good work ethic and being proactive (MIA8).

The internal audit staff are appointed by the human resources department and the head of the internal audit department. Staff are chosen who meet the criteria in the internal audit regulations from the GAB (MIA9).

In addition, audit staff candidates should have a degree in accounting or a related field, computer skills and experience with auditing. They should also have attended internal audit department workshops (MIA4). Some interviewees thought that the IAFs should also employ more experts from different disciplines.

We need expert employees in other fields such as engineers, surveyors, employees and administrators to help us determine the ratio of achievement of projects. Then, tasks are assigned according to expert employees in their fields (MIA1).

#### 5.3.2.4.2 Educational Qualifications

Educational qualifications are the second important indicator of internal auditors' competence. According to Drogalas, Karagiorgos and Arabatzis (2015), internal auditors must have high-level qualifications so that they can help secure internal control structures and assist management. Further, internal auditors' education should continue during their employment at the organisation. Different continuing education programmes should supplement areas in which auditors' formal education and training were insufficient; management should also introduce auditors to special topics that might be useful for their organisations (Al-Twajry et al. 2003). According to Okodo, Aliu and Yahaya (2019), organisations should prioritise enhancing internal auditor competence; therefore, they must periodically engage in activities directed at improving internal auditors' skills and knowledge.

The interview data indicated that internal audit staff were required to have a university degree or diploma in accounting or an equivalent degree in a closely related field. Ideally, job applicants should have at least a bachelor's degree with a good GPA.

It is essential for those who are appointed to the internal audit department to have a university degree or a diploma in accounting (MIA12).

The job applicants should have a bachelor's degree with a good GPA (MIA6).

Some managers indicated that a degree in accounting, finance or any other equivalent qualification was required for candidates to work in the internal audit department (MIA3, MIA4 and MIA7). Other interviewees said that most internal audit staff in government organisations did not hold a bachelor's degree or diploma in accounting, auditing or finance and they were not appointed to work as internal auditors.

Staff are sometimes transferred from other departments to the internal audit department and it seems that other departments just get rid of the worst staff they have. Also, I think that other departments will not let good staff leave or transfer. And the internal audit department cannot refuse because we are so short on staff (MIA10).

Staff members are usually promoted to work in the internal audit department and the human resources department does not pay any attention to these appointees' academic qualifications. The human resources department does not provide them any training, either (MIA11).

#### 5.3.2.4.3 Work Experience

Experience is the third important indicator of internal auditors' competence. According to Alzeban and Gwilliam (2014), experience is significant because it improves auditors' knowledge. Shohihah, Djamhuri and Purwanti (2018) also indicate that years of experience are reflected in an auditor's knowledge and expertise.

The interview data revealed that, since an IAF was a new department in many organisations, work experience was not an important requirement for employment in that department (MIA1). Some of the managers specified that work experience was important, but that experience could be in a related field. In other cases, functional and task experience was considered important.

He or she should have knowledge of the functions and tasks of the internal audit department ... expertise in the specialisation as well as a range of experience (MIA4).

Some managers also noted that internal auditors (aside from the managers of IAFs) had very little auditing experience (MIA5, MIA11 and MIA6).

Some of our employees are unable to discover fraud and corruption because of a lack of experience conducting financial reviews (MIA5).

When it comes to experience, most internal auditors working at the organisation were not hired as internal auditors—they were actually transferred from different departments to work as internal auditors. What I've observed is that employees who have issues in their current departments tend to be transferred to the internal audit department. Therefore, most of the internal auditors who came to this department from other ones suffer from a lack of internal audit experience (MIA10).

It is hard to say that the internal auditors know every single activity of the organisation well enough to adequately inspect those activities (MIA6).

#### 5.3.2.4.4 Continuing Development

Continuing development, such as training and attending educational seminars, is the fourth important indicator of internal auditor competence. Training increases auditors' knowledge and skills and improves their attitudes, thereby increasing their effectiveness in one or more areas. It can also help auditors to develop specific skills required by their organisations (Drogalas, Karagiorgos & Arabatzis 2015). According to Shohihah, Djamhuri and Purwanti (2018), organisations should focus on additional training initiatives and attending educational seminars to ensure that auditors stay abreast of new audit techniques and developments in the field. Okodo, Aliu and Yahaya (2019) stress the importance of continuous training and technical competence to effective internal audits.

The interview data show that IAFs used several approaches to develop their staff. Annual training and continuous development plans were designed based on employee needs and then sent to the president for approval (MIA3 and MIA6). Special bodies and institutions conducted such training, which would take place in Saudi Arabia or abroad. Sometimes internal audit staff were sent to other organisations with effective internal audit departments for training and educational seminars (MIA1, MIA2, MIA8 and MIA12). The Institute of Public Administration, the GAB, the Saudi IIA and other accredited institutes organise workshops and seminars in Saudi Arabia and sometimes employees were sent abroad for training.

We send the employees to external institutions. It also depends on whether the employee wants to learn (MIA9).

We provide top management with the training plan and the number of workshops and conferences we want to attend ... Top management chooses which training to approve (MIA5).

Training happens through specialised training courses that are announced by the organisation. The internal audit department also develops training plans ... Sometimes we send employees to institutes in Malaysia, Egypt and Dubai (MIA11).

However, several interviewees indicated that their organisations paid little attention to training and attending educational seminars and this negatively affected their work. Some managers remarked on the quality of training available.

There are no specialised, intensive trainings and educational seminars on internal auditing. I have attended a number of workshops, but they were not related to internal auditing at all (MIA5).

Since our staff in internal auditing lack sufficient experience and continuous training, their knowledge of new methods and developments in the field of auditing and internal auditing does not meet the highest current standards (MIA7).

The limitations of training programs on internal auditing are quite obvious. In addition, the trainers in such programs are often not experts in the field of internal auditing and lack practical auditing experience (MIA10).

## **5.4 Key Findings from Interviews with External Auditors**

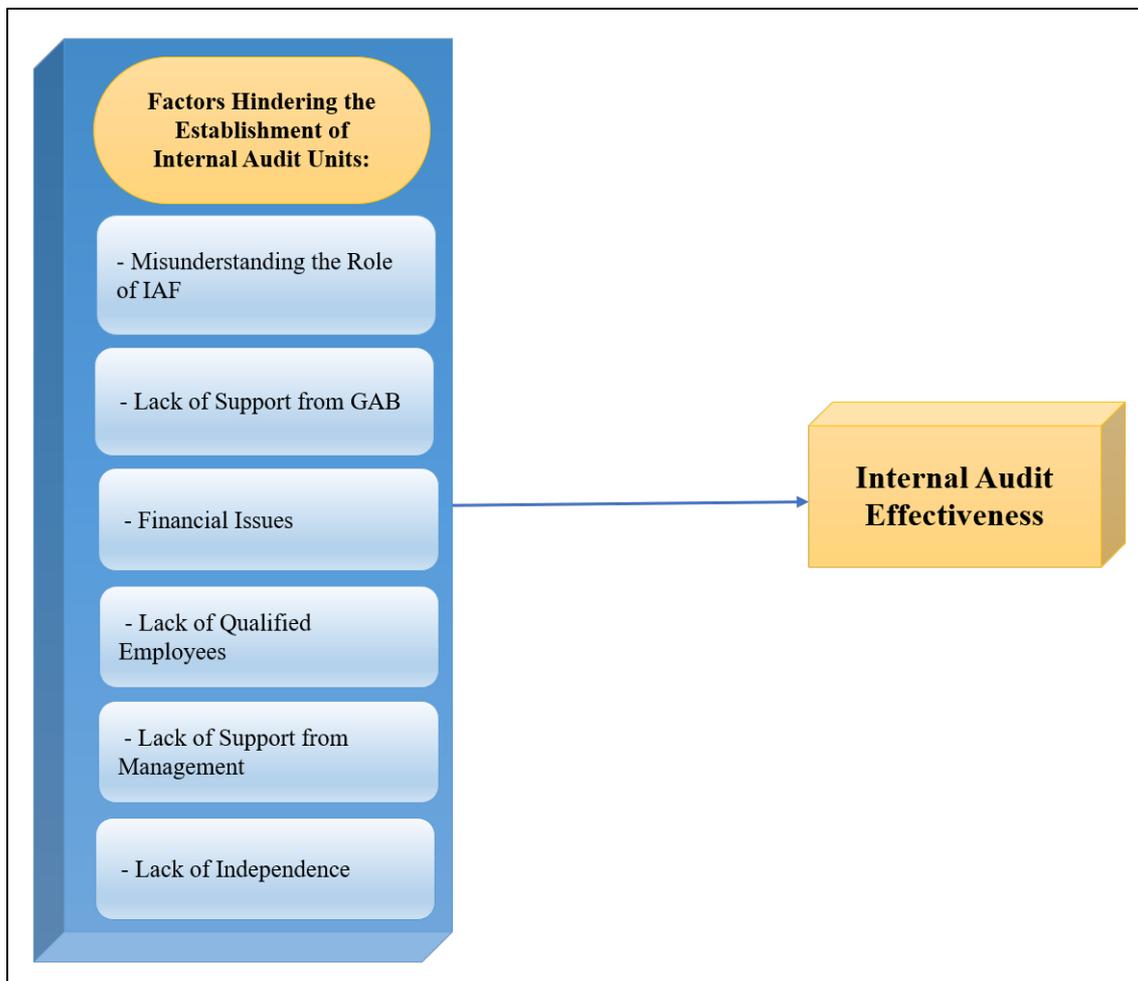
This section describes the findings from 12 semi-structured interviews with external auditors employed by the GAB. Since Resolution No. 235 established internal audit in the Saudi public sector in 2004, other regulations, such as Resolution No. 129 in 2007, have been passed to strengthen internal audit activities. Resolution No. 129 on IAE regulation mandated that all organisations that are subject to the GAB establish IAFs. However, according to Alzeban and Sawan (2013), many large organisations have failed to comply with this regulation and have not yet set up IAFs that meet the requirements of Resolution No. 129. Therefore, interviews were conducted with external auditors to explore the main reasons for the lack of established IAFs in Saudi Arabian government organisations.

### **5.4.1 Factors Hindering the Establishment of Internal Audit Units**

The Council of Ministers requested the GAB to be the governmental body that was responsible for establishing internal audit departments in all public-sector organisations. The need for a uniform solution was further reinforced in 2004 with Cabinet Decree No. 235, which mandated that all relevant organisations establish internal audit departments. GAB employees who served as external auditors in the interview sample were asked why internal audit departments were only implemented in some, but not all,

government organisations. Interviews were conducted with 12 external auditors who worked for the GAB, because the GAB has assumed the responsibility of establishing internal audit departments in all public-sector organisations. For this reason, interviews with external auditors were conducted in order to explore the main reasons for the lack of established internal audit departments in Saudi governmental organisations.

This section discusses factors that hinder the establishment of IAFs in Saudi Arabian government organisations. These factors form the main themes in the current study (see Table 4.2). In the interviews with external auditors, several factors were identified as themes: misunderstanding the role of IAF, lack of support from the GAB, financial issues, lack of qualified employees, lack of support from management and lack of independence. These factors are shown in Figure 5.3.



**Figure 5.3: Factors Hindering the Establishment of Internal Audit Units**

#### *5.4.1.1 Misunderstanding the Role of IAF*

The interview data revealed that misunderstanding the role of IAFs was the most common reason why internal audit units were not established in Saudi public sector organisations. External auditors indicated that other reasons included a lack of clarity in GAB internal audit regulations.

The reason is that senior management and presidents of government organisations do not understand the role of internal audits. Most members of senior management do not have a background in auditing and have no desire to establish effective internal controls in their organisations (EA11).

Some government organisations are unaware of and misunderstand the purpose of internal audit departments; they combine the internal audit with the follow-up department. There are big differences between these departments' roles and tasks (EA4).

Most of the government organisations contacted GAB employees to ask for more information about internal audits and establishing an internal audit department, because the Cabinet Decree did not provide many details on the establishment of internal audit departments (EA3).

It is obvious that most government organisations misunderstand IAF. Also, the information in the GAB regulations was not sufficient. Organisations need clarification of the regulations (EA6).

Thus, the interview data indicated that management misunderstood the role of internal audits. The GAB's internal audit regulations were also unclear. To date, no official action has been taken by the relevant authorities to revise and clarify current internal audit regulations to encourage the establishment of IAFs in the Saudi public sector (EA5, EA7, EA10 and EA12).

#### *5.4.1.2 Lack of Support from the GAB*

A lack of support from the GAB was specified as another factor hindering the establishment of internal audit units in the Saudi public sector. This was mentioned by most of the external auditors interviewed. The data also indicated that a lack of

cooperation, communication and interaction between the GAB and government organisations posed a problem.

The GAB has failed to introduce IAF in government organisations. The GAB does not provide any seminars or workshops to train top officials on the role of internal audits. Internal audit regulations alone are not sufficient (EA1).

The GAB has failed to support and follow up with government organisations. GAB employees cannot act as consultants for internal audit departments since they lack experience. Honestly, most GAB employees signed up for a specific mission when they visit government organisations. Therefore, they are only concerned with completing their mission and reporting back to their managers (EA3).

Unfortunately, because of a lack of communication and follow-up from the GAB, many government organisations have failed to comply with the GAB regulations requiring them to establish internal audit departments (EA6).

The GAB has no committees or departments responsible for following up with government organisations and ensuring that they establish internal audit departments (EA7).

Honestly, there is a lack of cooperation between GAB employees and internal audit staff. The GAB employees only care about their reports when they audit government organisations. They are pressured by their managers, who will say, 'You must find mistakes and report them to me in writing so I can say that you have worked.' Also, employees of government organisations are not allowed to see the GAB audit reports (EA12).

Moreover, GAB employees (external auditors) and internal auditors have poor relationships and minimal interaction; external auditors are usually not welcome in government organisations (EA4). The external auditors also conveyed that the failure to make annual audit reports public hindered the establishment of IAFs. The GAB annual report was regarded as a 'red line'; nobody could touch it, as explained by several interviewees. This annual report was submitted only to the King and the Crown Prince (EA2, EA8, EA10 and EA11).

#### *5.4.1.3 Financial Issues*

The data from interviews with external auditors also indicated that financial problems hindered the establishment of IAFs in government organisations. Most interviewees complained that the MoF had provided no budget to establish internal audit departments in government organisations. The MoF had also failed to provide support for salary increases, making it difficult for internal audit departments to hire qualified staff.

The Ministry of Finance has not allocated a budget for the establishment of internal audit units in government organisations and we do not see any efforts towards enhancing annual budgets to support this (EA10).

The Ministry of Finance has not cooperated at all in terms of raising salaries so state organisations can hire qualified internal audit staff. Since salaries in the private sector are significantly higher than those in the public sector, qualified staff prefer to work in private-sector organisations (EA7).

Since the Cabinet Decree was passed requiring the establishment of internal audit units in all government organisations, a number of government organisations have repeatedly asked the Ministry of Finance to approve new positions and designated funds, but in vain (EA9).

The Ministry of Finance has failed to provide adequate funds in response to the Cabinet Decree. It's a hostile environment for establishing internal audit units in government organisations (EA11).

Although the MoF controls the budgets of public organisations, it had failed to increase annual budgets to establish internal audit departments, in line with the Cabinet Decree (EA4, EA10 and EA12).

#### *5.4.1.4 Lack of Qualified Employees*

Most external auditors indicated that the lack of qualified employees was one of the most significant problems hindering the establishment of IAFs. The interviewees noted that this factor made it difficult for organisations to establish internal audit units in compliance with GAB regulations.

A number of government organisations does not have competent employees. They have few employees overall ... other departments will suffer if staff are transferred to

internal audit departments ... For example, in one of the government organisations that I audited, the manager of the internal audit department is not a specialist in internal auditing. I mentioned that in my report, but nothing happened (EA2).

There is a shortage of staff in many departments at government organisations, so while a few government organisations have established internal audit departments, they are not provided the necessary resources or qualified staff (EA6).

Most government organisations do not have competent employees. Also, most of the employees have a diploma or bachelor's degree in different disciplines, not accounting, finance or auditing. Further, these government organisations do not want to follow the GAB internal audit regulations for hiring internal auditors (EA8).

The Cabinet Decree was issued several years ago, but until now, the Ministry of Finance has not approved new positions for internal audit employees. Instead, government organisations have tried to resolve the problem by transferring employees from other departments to internal audit departments (EA12).

Although the Cabinet Decree was issued several years ago, the MoF has not approved new positions for internal audit unit employees. In response, most government organisations transferred employees of other departments to internal audit departments, but without training or preparing these employees (EA6, EA9 and EA11).

#### *5.4.1.5 Lack of Support from Management*

In the interviews, all external auditors observed that management in the Saudi public sector had not provided support for the establishment of internal audit departments. For example, management had not approved IAF managers' requests to increase the number of internal audit employees and some IAFs had been eliminated because of a lack of support from management (EA5, EA6 and EA12).

Moreover, most interviewees believed that management had a negative idea of the function of internal audits and, as a result, failed to provide sufficient resources and an appropriate working environment for internal audit departments.

Most members of top management in government organisations do not accept the concept of an internal audit, nor do they understand the function of an internal audit. So, they do not want to establish internal audit units in their organisations (EA1).

Perhaps top officials have a negative idea of the function of internal audits. Also, I think they are against the idea of establishing internal audit units. Even if government organisations have internal audit units, they do not provide them with sufficient resources and management ignores these departments most of the time. I can't say that existing internal audit units have a good working environment (EA3).

I think that most top officials do not care about the internal audit departments and they do not want to have effective internal audit departments in their organisations. Most of the existing internal audit department's locations are far from top official and they are not close to their offices (EA4).

Some government organisations do not want to have effective internal audit units and they think that they will have problems with internal auditors because they've had bad experiences with external auditors. I think this is because of the negative perception of GAB employees and the lack of cooperation between government organisations and GAB staff. As a result, management has a negative perception of internal auditors, so they fail to provide adequate support to internal audit units (EA9).

Thus, the interview data revealed that management in Saudi Arabian government organisations had a negative perception of internal auditing and was unaware of the role of an IAF. This hindered the establishment of internal audit units in the Saudi public sector. Because of these negative perceptions, management did not provide necessary resources or a good working environment for IAFs (EA1, EA6, EA8, EA10 and EA11).

#### *5.4.1.6 Lack of Independence*

Lack of independence is another factor hindering the establishment of internal audit units in the Saudi public sector. Several interviewees indicated that the independence of the internal audit hindered the establishment of IAFs in the Saudi public sector. The interview data showed that it was difficult for internal auditors to be independent since they were also employees of the organisations. Interviewees identified several issues affecting the independence of internal audit departments, including reporting levels, access to information and expectations that auditors perform non-audit functions.

Internal auditors are not independent because internal audit departments are asked to perform non-audit functions in government organisations. Other departments also interfere with the internal audit department's work (EA12).

Also, internal auditors are not given full authority; they cannot enter a department unless they request and receive approval from the general financial manager of the department, so they work under his authority, not that of the president of the organisation (EA6).

Internal audit employees do not have free access to all documents in their organisations; their work is restricted and they are assigned only to financial and accounting tasks (EA11).

Thus, the data revealed that a lack of independence was another factor hindering the establishment of IAFs in the Saudi public sector. IAFs were not independent; as many interviewees noted, these units were supposed to report directly to the highest authority in the organisation, such as the president or minister, but in fact, they had to report to lower-level leadership such as financial or development managers (EA1, EA7, EA9 and EA10).

## **5.5 Improving Internal Audit Departments in the Saudi Public Sector**

This section presents all the participants views (managers of internal audit departments, internal auditors, and external auditors) and it analyses the findings to identify ways in which IAFs in the Saudi public sector can be improved (see Table 4.3). When asked how these departments could be improved, most interviewees indicated that providing appropriate resources and staff, along with a designated internal audit budget, would improve the effectiveness of these departments. Other recommendations included providing employees with advanced auditing software, approval and support for professional certificates and continuing development training. Some interviewees suggested that internal audit units could be improved by:

providing special programs and courses for managers and employees in the internal audit department (IA12);

developing internal audit employees' skills by increasing training and connecting them with other organisations that have successful internal audit departments (IA3);

providing intensive courses and training for internal audit employees in other departments so they can become familiar with the role and work mechanisms of other departments (MIA2).

All interviewees conveyed that IAFs would only be improved if they could recruit qualified employees. Most interviewees noted that internal audit departments needed qualified employees to effectively carry out their work.

Government organisations need to appoint qualified, experienced internal audit employees to improve the performance and quality of internal audit departments in the Saudi public sector (EA2).

Increasing the number of qualified internal audit employees is important if internal audit departments are to be effective (EA7).

Internal audit units need to hire competent staff with professional qualifications because that will help them do their work appropriately and effectively. Then the organisation can trust the findings of internal audits (MIA1).

Some interviewees also noted that the lack of female internal auditors impeded the effectiveness of internal audit departments. According to the interviewees, internal audit departments would be more effective if more women internal auditors worked in government organisations. Several interviewees recommended the establishment of women's IAFs to conduct audit work on bodies such as women's university campuses.

Women's internal audit departments should be established to audit women's university campuses and increase the internal audit department's effectiveness (IA10).

The number of female internal auditors should be increased and an appropriate environment is needed with one location for both men and women (IA4).

The interview data also indicated that a lack of staff motivation affected the productivity of internal audit departments. Most interviewees highlighted the need for financial incentives for internal auditors because it was difficult to attract qualified employees without financial compensation that was comparable to that offered in the private sector (EA12). Some interviewees believed that employee motivation could take the form of bonuses, financial compensation, promotions, salary increments, overtime and extra pay (IA12, IA2, IA4, MIA9 and MIA4). IA6 believed that increasing employee motivation would significantly improve the productivity of internal audit employees and stop them from leaving to seek work in the private sector.

The interview data also indicated that IAFs would be improved by the introduction of internal policies to guide the work of internal auditors while giving them full access to documents and departmental accounts. Some interviewees also recognised the need to empower audit department staff with comprehensive authority and access to all documents and transactions, with the independence to conduct their work without restrictions and with serious consideration of their recommendations.

Government organisations should be restructured so that internal audit departments are independent and work directly for the presidents (MIA4).

Internal audit departments need total independence. They must have unrestricted access to information and should report to the highest officials and they should be independent of deputies and assistant general managers (EA3).

Some interviewees also pointed out that support from senior management and good relationships and cooperation with other departments were key to the effectiveness of internal audit departments. Most departments in government organisations did not understand the role of internal audit; therefore, educating all units about the role and work of IAFs would improve relationships and cooperation across departments.

Seminars should be held to educate presidents and other departments and employees about the functions of the internal audit department (EA9).

Workshops and seminars should be provided for other departments so they can understand the role of the internal audit department (IA1).

Internal audit departments can be strengthened by spreading awareness through workshops that educate other departments about the role of the internal audit department (IA8, IA9 and MIA10).

## **5.6 Summary and Conclusions**

This chapter presented an analysis of the 36 semi-structured interviews conducted with managers of internal audit units, internal audit employees and external auditors. The chapter identified external and internal factors impacting internal audit effectiveness, factors hindering the establishment of IAFs and ways to improve internal audit departments.

The interviews with 12 managers of internal audit units and 12 internal audit employees identified three external factors that undermined the ineffectiveness of IAFs in the Saudi public sector: the lack of support from top management, an unsupportive organisational culture and the internal audit department's lack of independence. The lack of top management support was one of the most significant external factors impacting the effectiveness of internal audits, although an unsupportive organisational culture and the internal audit department's lack of independence were also important. The lack of top management support was reflected in the lack of sufficient resources, inadequate funds, a lack of supporting audit plans and the failure to implement internal audit recommendations. An unsupportive organisational culture included the inability to identify the scope of internal audit work and a lack of trust and communication between the internal audit unit and other departments. IAFs in the Saudi public sector also lacked independence, as evidenced in the methods for appointment and replacement of managers of internal audit units and in internal auditors' lack of freedom of enquiry and involvement in non-audit work. Overall, the interview data unequivocally demonstrated that top management support hindered internal audit effectiveness and the other external factors such as organisational culture and independence of internal audit. The interview data also indicated a direct association between the three external factors of the study and internal audit effectiveness. A path analysis was used to examine these associations between the variables (see Chapter 6).

The interviews with the 12 managers of internal audit units and 12 internal audit employees also identified four internal factors impacting the effectiveness of internal audit: poor staff motivation, a limited number of staff, inadequate utilisation of IT and a lack of competent staff. The findings suggest that the lack of competent internal auditors was the internal factor with the most significant impact on internal audit effectiveness in the Saudi public sector. However, the lack of motivation, a shortage of internal auditors and low utilisation of IT were important as well. The lack of competent internal auditors was reflected in the methods for recruiting audit staff, the lack of continuing development programs and in the lack of educational qualifications and work experience of internal audit employees. The data also revealed a direct association between the four internal factors of the study and internal audit effectiveness. A path analysis was used to examine these associations between the variables (see Chapter 6).

The interviews with 12 external auditors identified several reasons for the absence of established IAFs in Saudi Arabian government organisations. These reasons include a misunderstanding of the role of internal audit, a lack of support from the GAB, financial issues, a lack of qualified employees, inadequate support from top management and internal audit departments' lack of independence. The data indicated that the ability to hire qualified employees explicitly affected the establishment of IAFs although an understanding of the role of internal audit, support from the GAB, financial resources, support from top management and internal audit departments' independence were also important.

The findings also highlighted ways to improve the effectiveness of internal audit units. The participants' recommendations included increasing the number of qualified staff and the total numbers of male and female internal auditors, empowering internal auditors, improving the relationship of top management with other departments, increasing auditor motivation, increasing awareness of the role of internal audit and strengthening the independence of the IAF, as described in Section 5.5. The next chapter presents the quantitative findings of the study.

## Chapter 6: Quantitative Findings

### 6.1 Introduction

This chapter presents the study's quantitative findings. It describes the questionnaire data gathered from managers and employees of internal audit units in the Saudi public sector from December 2019 to February 2020. The chapter provides a descriptive analysis and a multivariate analysis of the data. The descriptive analysis presents the frequencies, percentages, means and standard deviations of the data. This is followed by a description of how the study hypotheses were tested. The final section presents the regression results of the relationship between the three external factors and internal audit effectiveness. It also presents the regression results of the relationship between the four internal factors and internal audit effectiveness.

### 6.2 Response Rate

Questionnaires were sent to 150 managers of internal audit units and 150 internal audit employees at 150 Saudi government organisations that were subject to GAB audits. Of the 300 questionnaires sent out, 290 valid responses were returned (145 from managers and 145 from audit staff), yielding a response rate of 97%. The response rate was remarkably high because two types of questionnaires were used: a personally distributed questionnaire and an online version. Furthermore, because the study participants were guaranteed confidentiality and anonymity, a maximum number of responses were gathered from Saudi public organisations (see Chapter 4 for further details). The response rate in this study, while high, was not surprising; according to a study carried out by Alzeban and Gwilliam (2014) in the Saudi public sector, the average survey response rate in their study was 91%. Moreover, Baruch and Holtom (2008) suggest that a response rate of over 70% can be considered exemplary. Therefore, the response rate in this study could be considered extremely good. Table 6.1 presents the breakdown of responses for each category of respondents.

**Table 6.1: Questionnaire Response Rate**

<b>Group</b>	<b>Distributed Questionnaires</b>	<b>Useable Questionnaires</b>	<b>Response Rate</b>
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Internal audit unit managers	150	145	97%
Internal audit employees	150	145	97%
Total	300	290	97%

Source: Survey data (2020).

### 6.3 Participants' Demographic Information

This section describes the participants' demographic information, including gender, age, employment status, level of education, professional qualifications and work experience. Participants were also asked how long their internal audit unit had existed.

#### 6.3.1 Gender

As Table 6.2 shows, 253 of the participants (87.2%) were male and 37 (12.8%) were female. This ratio suggests that there are significantly more male than female internal auditors in Saudi public organisations. This is not surprising; anecdotal evidence suggests that Saudi women have less access to public jobs than their male counterparts. As noted by Syed, Ali and Hennekam (2018), Saudi women struggle to find employment in the public sector because Saudi Arabia is a conservative country and a complex, male-dominated society; traditions, norms and values are strongly influenced by ultra-traditional Islamic beliefs.

**Table 6.2: Respondents' Gender**

Sex	Number	Percentage
Female	37	12.8%
Male	253	87.2%
Total	290	100%

Source: Survey data (2020).

#### 6.3.2 Age

As Table 6.3 below shows, nearly half of the respondents were aged 40 to 49 (46.2%). The next largest age group was 30 to 39 (42.40%). For the rest, 7.20% were aged 50 to 59, 3.80% were 20 to 29 and 0.3% were over 60. According to the General Authority for Statistics (2018), more than 80% of the Saudi population are aged 40 to 49 years. These

numbers imply that most internal audit employees are young. This also shows the low employment in the public sector of older internal audit employees.

**Table 6.3: Respondents' Age**

<b>Age Range</b>	<b>Number</b>	<b>Percentage</b>
20–29	11	3.8%
30–39	123	42.4%
40–49	134	46.2%
50–59	21	7.2%
Over 60	1	0.3%
<b>Total</b>	<b>290</b>	<b>100%</b>

Source: Survey data (2020).

### **6.3.3 Employment Status**

As shown in Table 6.4, 145 managers of internal audit units and 145 internal audit employees members responded to the survey. Therefore, the percentages of the respondents are equal in the study.

**Table 6.4: Respondents' Employment Status**

<b>Employment Status</b>	<b>Number</b>	<b>Percentage</b>
Manager of internal audit unit	145	50%
Internal audit employees	145	50%
<b>Total</b>	<b>290</b>	<b>100%</b>

Source: Survey data (2020).

### **6.3.4 Level of Education**

Table 6.5 shows the respondents' levels of education. More than half (55.20%) had bachelor's degrees while nearly a quarter (24.80%) had a master's degree. A few (7.60%) had a postgraduate diploma while 7.20% had a diploma and 4.10% had a PhD. Only 1% had a high school diploma or less as their highest level of education. This corroborates previous evidence, that most internal audit employees in Saudi Arabia are generally well educated. As noted by Alenazi, Muenjohn and McMurray (2019), approximately 85% of public sector employees in Saudi Arabia are well educated.

**Table 6.5: Respondents' Level of Education**

<b>Highest Level of Education</b>	<b>Number</b>	<b>Percentage</b>
High school or less	3	1%
Diploma	21	7.2%
Bachelor's degree	160	55.2%
Postgraduate diploma	22	7.6%
Master's	72	24.8%
PhD	12	4.1%
<b>Total</b>	<b>290</b>	<b>100%</b>

Source: Survey data (2020).

### 6.3.5 Professional Qualifications

As Table 6.6 shows, more than three-quarters (89.7%) of the respondents had no professional qualifications of any kind. Approximately 5% were Saudi certified public accountants (Saudi CPAs); another 4.8% were certified internal auditors (CIAs). In addition, 0.7% were certified public accountants (CPAs). These results suggest that most internal auditors in Saudi Arabia do not have professional certification, which is likely to affect their effectiveness and technical skills. According to Kapelko (2005), professional qualifications (for example, CIA or CPA) are an essential indicator of technical ability and proficiency. Alzeban and Sawan (2013) revealed that to date, professional qualifications are not fully recognised in the Saudi public sector. Therefore, it would appear that internal auditors are not interested in acquiring any type of professional qualification.

**Table 6.6: Respondents' Professional Qualifications**

<b>Professional Qualifications</b>	<b>Number</b>	<b>Percentage</b>
None	260	89.7%
Certified public accountant (CPA)	2	0.7%
Certified internal auditor (CIA)	14	4.8%
Saudi certified public accountant (Saudi CPA)	14	4.8%
<b>Total</b>	<b>290</b>	<b>100%</b>

Source: Survey data (2020).

### 6.3.6 Work Experience

As shown in Table 6.7, a sizeable number of respondents (138) with percentage (47.6%) indicated that they had at least three but less than six years of experience in their jobs. More than a quarter (28.30%) had six to less than nine years of experience and a tenth (10.70%) had less than three years of experience. A small percentage (7.20%) had nine to less than 12 years of experience and an even smaller percentage (6.2%) had 12 years of experience or more. This is not unexpected in a nascent profession; however, it does highlight the shortage of experienced employees in these roles. Al-Twajjry et al. (2003) and Alzeban and Sawan (2013) point out that a number of internal audit managers and staff in the Saudi public and private sectors lack experience in the field of internal auditing.

**Table 6.7: Respondents' Work Experience**

<b>Work Experience</b>	<b>Number</b>	<b>Percentage</b>
Less than 3 years	31	10.7%
3 to less than 6 years	138	47.6%
6 to less than 9 years	82	28.3%
9 to less than 12 years	21	7.2%
12 years or more	18	6.2%
Total	290	100%

Source: Survey data (2020).

### 6.4 Establishment of Internal Audit Units

As shown in Table 6.8, a little more than a quarter (27.90%) of internal audit units were established more than 10 years ago. More than half of the government organisations in this study (52.40%) had established internal audit units between 5 and 10 years ago while one fifth (19.70%) had established internal audit units less than five years ago. This pattern indicates that government organisations have been slow in complying with the legal requirement to establish internal audit units, namely, Resolution No. 235 (Alzeban & Gwilliam 2014).

**Table 6.8: Time of Establishment of Internal Audit Unit**

<b>Internal Audit Unit Established</b>	<b>Number</b>	<b>Percentage</b>
Less than 5 years ago	57	19.7%
Between 5 and 10 years ago	152	52.4%
More than 10 years ago	81	27.9%
Total	290	100%

Source: Survey data (2020).

## **6.5 Size of Internal Audit Units**

As shown in Table 6.9, many of the government organisations surveyed (21.4%) had 17 internal auditors in their IAF while only two organisations (0.7%) had one internal auditor in the unit. This suggests that large Saudi internal audit departments may perform higher quality work than small departments, given the argument of Nasibah (2015) that the quality of internal auditing work is greatly enhanced by the increasing number of employees. This is because the internal audit department involved in the process of auditing as a result of internal audit work's larger scope.

**Table 6.9: Number of Internal Auditors**

<b>Number of Internal Auditors in Unit</b>	<b>Frequency</b>	<b>Percentage</b>
1	2	0.7%
2	3	1.0%
3	9	3.1%
4	15	5.2%
5	14	4.8%
6	15	5.2%
7	13	4.5%
8	10	3.4%
9	12	4.1%
10	5	1.7%
11	3	1.0%
12	6	2.1%
13	6	2.1%
14	13	4.5%
15	16	5.5%
16	38	13.1%
17	62	21.4%
18	48	16.6%
Total	290	100%

Source: Survey data (2020).

## **6.6 Utilisation of Information Technology**

Table 6.10 shows that almost all respondents (98.9%) used IT (i.e. computers, laptops, applications) for job-related activities while only 2.1% of the respondents reported that they do not use IT in their jobs. This indicates that nearly all Saudi auditors use IT. According to Abu-Musa (2008), IT is an extremely crucial tool used in Saudi organisations since it saves time and monitors organisational procedures. Cannon and Grove (2004) argue that IT is essential for the design, implementation and control of many organisational processes in the public sector.

**Table 6.10: Utilisation of Information Technology**

<b>Use IT</b>	<b>Number</b>	<b>Percentage</b>
Yes	284	97.9%
No	6	2.1%
Total	290	100%

Source: Survey data (2020).

### **6.6.1 Utilisation of Information Technology for Internal Audit Activities**

As Table 6.11 shows, of the respondents who used IT, 65 (22.9%) indicated that they spent eight hours a day using IT for internal audit activities, 61 (21.5%) spent seven hours a day and 36 (12.7%) spent three hours a day. Of the remaining respondents, 30 (10.6%) spent five hours a day using IT for audit activities, 30 spent six hours a day and 32 (11.3%) spent two hours a day. Finally, 25 respondents (8.8%) spent four hours a day using IT for internal audit activities and five participants (1.8%) spent only one hour a day. The availability and use of internal audit software could enhance the quality of internal audit activities. Abu-Musa (2008) argues that a lack of IT resources limits IT use and restricts the scope of activities of IAFs in Saudi Arabian government organisations.

**Table 6.11: Number of Hours Spent Using Information Technology for Internal Audit Activities**

<b>Hours Per Day Spent Using IT for Internal Audit Activities</b>	<b>Number</b>	<b>Percentage</b>
1	5	1.8%
2	32	11.3%
3	36	12.7%
4	25	8.8%
5	30	10.6%
6	30	10.6%
7	61	21.5%
8	65	22.9%
Total	284	100%

Note: The sample used here is reduced to 284 because six respondents indicated that they do not use IT.

The following sections present the data for the scale items measuring the managers' and employees' perceptions about characteristics of internal audit practice. The responses were coded on a five-point Likert scale where 1 indicated strong disagreement with the statement and 5 indicated strong agreement.

### 6.7 Top Management Support (External Factor)

Participants were asked to indicate the extent to which they disagreed (1) or agreed (5) with the six statements about top management support. Table 6.12 presents the responses in ranked order.

**Table 6.12: Top Management Support**

Statement	Mean	St. Dev.	Rank
1. The internal audit department provides top management with sufficient, reliable and relevant reports about their work and recommendations.	3.92	1.224	1
2. Top management supports the internal audit department in performing its duties and responsibilities.	3.75	1.29	2
3. Top management is involved in the internal audit plan.	3.69	1.253	3
4. Top management's responses to internal audit reports are reasonable.	3.68	1.29	4
5. The internal audit department is large enough to successfully carry out its duties and responsibilities.	3.22	1.595	5
6. The internal audit department has an adequate budget to successfully carry out its duties and responsibilities.	3.15	1.629	6
Overall Mean, Top Management Support	3.57	1.13463	

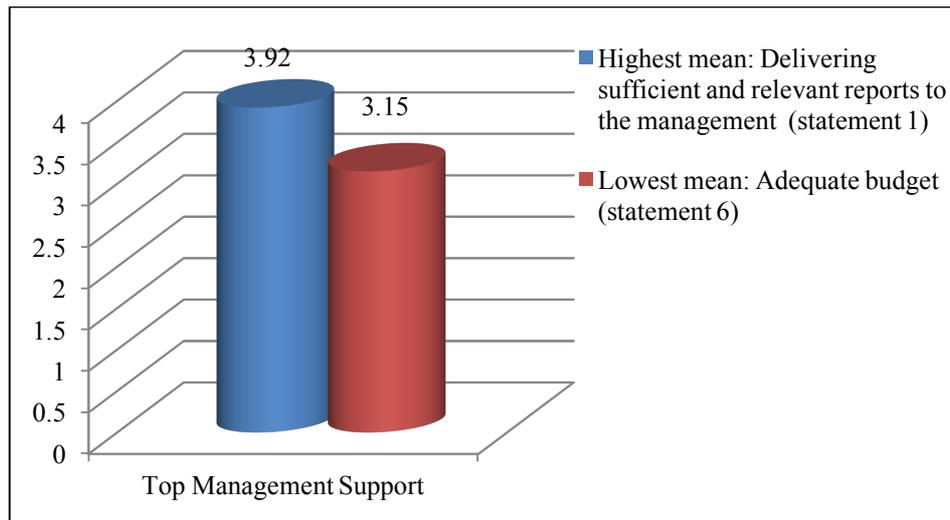
Note: The researcher reordered the statements from the highest to the lowest mean.

Source: Survey data (2020).

As Table 6.12 shows, the overall mean (3.57) for top management support lies towards the positive end of the Likert scale, indicating that participants agreed and disagreed in equal numbers that management supported the internal audit department. The Statement 1 received the highest mean score (3.92), which suggests that the internal audit unit managers and internal auditors agreed with the following statement: 'Internal audits provide senior management with sufficient, reliable and relevant reports of their work and

recommendations.’ However, the Statements 5 and 6 had the lowest mean scores (3.22 and 3.15, respectively). This suggests that the participants were positive, but less satisfied with the number of audit staff and the budget allocated to internal audit departments. The overall standard deviation for top management support as an external factor was 1.13463, indicating a range of responses.

In comparison, Salehi (2016) utilised similar measurement items in the Iranian private sector, and Statement 1 received the highest mean score, 3.81, which indicated that the internal auditors generally agreed with the following statement: ‘The internal audit department provides top management with sufficient, credible and relevant reports of their work and recommendations.’ According to Salehi’s results, Statements 5 and 6 had the mean scores of 2.19 and 2.24, respectively, which were the lowest of all the statements; this suggests that neither the size of the staff working internal audit nor the allocated budget was deemed to be satisfactory. The results of the highest- and lowest-ranked statements and the highest mean score in the present study and in Salehi’s work were similar, but the outcomes of the lowest mean score were different. Overall, the present study, which utilised a different sample and was conducted five years later in a different country, replicated the earlier results. Figure 6.1 below shows the highest and lowest mean scores for this external factor in this study.



**Figure 6.1: Highest and Lowest Mean Scores for Top Management Support**

## 6.8 Organisational Culture (External Factor)

Participants were asked to indicate the extent to which they disagreed (1) or agreed (5) with the 19 statements related to organisational culture. Table 6.13 presents the responses in ranked

**Table 6.13: Organisational Culture**

Statement	Mean	St. Dev.	Rank
1. Language is not a problem when communicating with other staff.	4.27	1.201	1
2. There is a high level of face-to-face interaction among colleagues in the workplace.	3.99	1.054	2
3. I feel comfortable using the knowledge-sharing technologies available.	3.96	1.358	3
4. Most of my colleagues are people whom I know well and consider trustworthy.	3.94	1.34	4
5. Certain rules and procedures exist to protect the person sharing his/her knowledge against the harmful intentions of others.	3.88	1.395	5
6. I have not been previously harmed as a result of sharing knowledge with my co-workers.	3.8	1.438	6
7. Information flows easily throughout the organisation regardless of employee roles or other boundaries.	3.79	1.214	7
8. I believe co-workers should not share personal information.	3.7	1.24	8

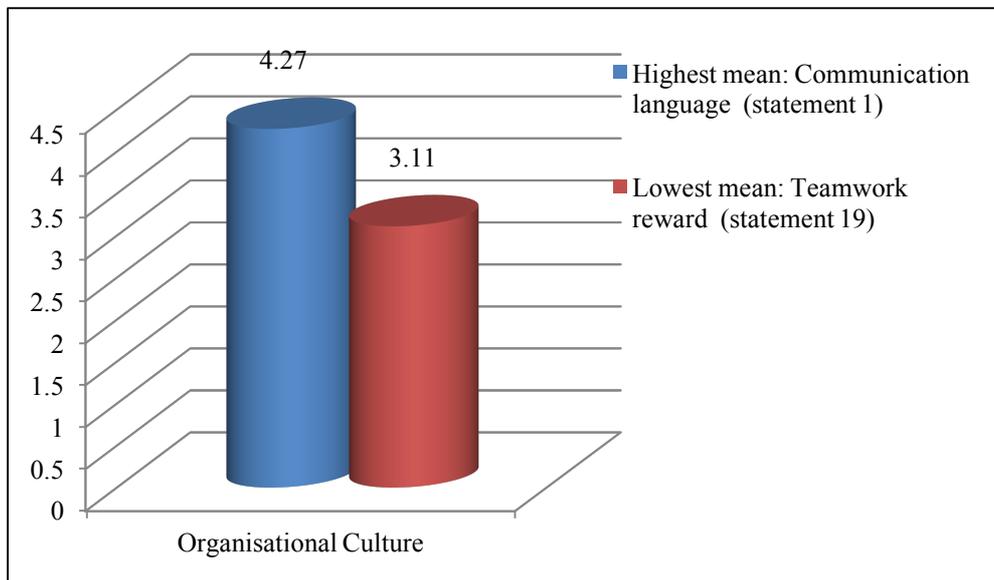
<b>Statement</b>	<b>Mean</b>	<b>St. Dev.</b>	<b>Rank</b>
9. Employees are rewarded for sharing their knowledge and experience with their colleagues.	3.61	1.546	9
10. The technological tools available at this organisation for sharing knowledge are effective.	3.57	1.29	10
11. I believe most people would not hesitate to take advantage of others' knowledge and experience for personal gain.	3.48	1.206	11
12. There is a considerable level of trust among co-workers in this organisation.	3.48	1.212	12
13. Certain tasks require the formation of teams with members from different departments.	3.45	1.318	13
14. The knowledge-sharing rewards available effectively motivate staff to share their knowledge.	3.44	1.612	14
15. Teamwork discussions and collaborations enhance communication among colleagues.	3.43	1.306	15
16. I do not hesitate to share my feelings and perceptions with my colleagues.	3.42	1.298	16
17. This organisation provides various tools and technologies to facilitate knowledge-sharing and exchange (e.g. groupware, email, intranet).	3.36	1.355	17
18. Workers actively participate in decision-making.	3.32	1.243	18
19. Employees are more likely to be rewarded for teamwork and collaboration than for individual performance.	3.11	1.353	19
<b>Overall Mean, Organisational Culture</b>	<b>3.63</b>	<b>1.01394</b>	

Note: The researcher has reordered the statements from the highest to lowest mean.

Source: Survey data (2020).

Table 6.13 shows the means, standard deviations and ranks for organisational culture variables. The highest ranked statement had the highest mean score (4.27), indicating that most participants strongly agreed with the statement: 'Language is not a problem when communicating with other staff.' This implies that respondents were of the view that language presents a limited barrier to employee communication. The lowest ranked statement was 'Employees are more likely to be rewarded for teamwork and collaboration than for individual performance' with a mean score (3.11), indicating that employees were positive but less satisfied regarding rewards for teamwork and collaboration. The overall mean and standard deviation for this factor were 3.63 and 1.01394, respectively.

In comparison, Al-Alawi et al. (2007) found that the highest mean score (i.e., 4.19) was for Statement 6, which means that the respondents agreed with the following statement: ‘I do not have any hesitation in terms of sharing my perceptions and emotions with my colleagues.’ According to their results, Statement 9 had the lowest mean score (i.e., 1.43), which suggests that employees are dissatisfied with teamwork and collaboration-related rewards. There was an obvious similarity between the lowest-ranked statements in the two studies; but the highest-ranked statements and the highest and lowest mean scores were different in the present and previous studies, which were conducted 14 years apart in different countries and with different samples. Figure 6.2 below shows the highest and lowest mean scores for organisational culture as an external factor in this study.



**Figure 6.2: Highest and Lowest Mean Scores for Organisational Culture**

## 6.9 Independence of the Internal Audit (External Factor)

Participants were asked to indicate the extent to which they disagreed (1) or agreed (5) with the nine statements related to the independence of internal audit. Table 6.14 presents the responses in ranked order.

**Table 6.14: Independence of Internal Audit**

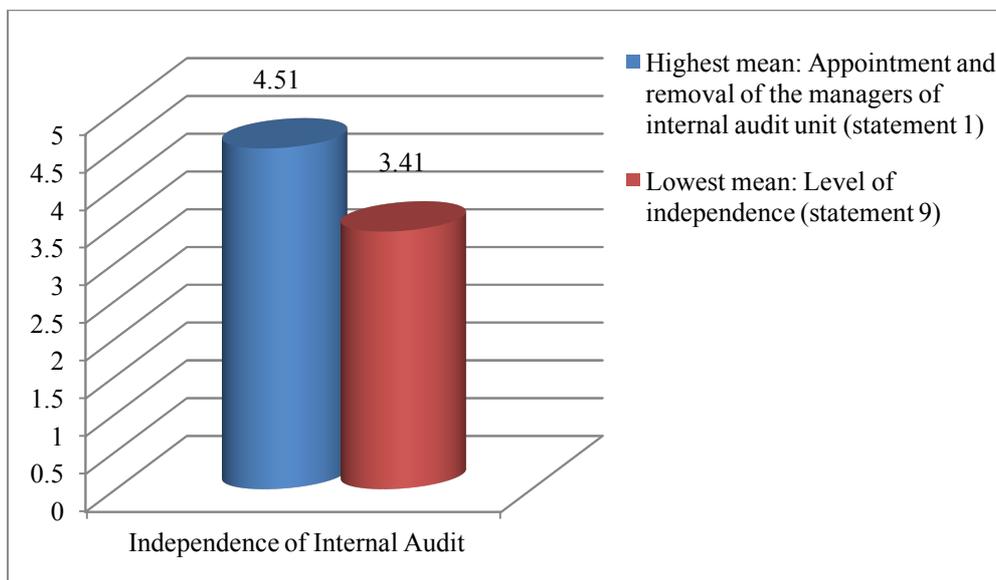
<b>Statement</b>	<b>Mean</b>	<b>St. Dev.</b>	<b>Rank</b>
1. The president of government organisations approves the appointment and replacement of the head of internal auditing.	4.51	1.006	1
2. The head of internal auditing reports to a level within the organisation that allows the internal audit to fulfil its responsibilities.	3.88	1.329	2
3. The head of internal auditing has direct contact with the president of government organisations.	3.86	1.406	3
4. The internal audit department has direct contact with senior management other than the finance director.	3.8	1.397	4
5. Internal audit employees are not requested to perform non-audit functions.	3.77	1.457	5
6. Conflicts of interest rarely occur in the work of internal auditors.	3.53	1.4	6
7. Internal auditors rarely face interference from management while doing their work.	3.5	1.425	7
8. Internal audit employees have free access to all departments and employees in the organisation.	3.5	1.514	7
9. Internal audit employees are sufficiently independent to perform their professional obligations and duties.	3.41	1.552	9
Overall Mean, Independence of the Internal Audit	3.75	1.16458	

Note: The researcher has reordered the statements from the highest to lowest mean.

Source: Survey data (2020).

Table 6.14 shows the means, standard deviations and ranks for variables indicating the independence of the internal audit. The overall mean (3.75) lies approximately in the middle of the Likert scale; along with the standard deviation (1.16458), this indicates a tendency towards agreement rather than disagreement on variables addressing internal audit independence. Statement 1 received the highest mean score (4.51), indicating that the respondents in 145 government organisations strongly agreed with the statement: ‘The president of government organisations approves the appointment and replacement of the head of internal auditing.’ This means that managers of internal audit departments are usually hired and removed by the highest officials of government organisations. Statement 9 had the lowest mean score (3.41), indicating that the respondents felt slightly less positive about their independence to carry out professional obligations and duties.

In comparison, Alzeban and Gwilliam (2014) found that Statement 4 had the highest mean score (i.e., 3.68), which means that the internal auditors tended to agree with the following statement: ‘The internal audit department has direct contact not only with senior management but also with the finance director.’ Contrary to the present study, Statement 5 received the lowest mean score of 3.00, which indicates that on average, the internal auditors were not satisfied with the requirement to conduct non-audit functions. The present study, which was conducted seven years after the earlier work and utilised a different sample, yielded significantly different outcomes. Figure 6.3 below shows the highest and lowest mean scores for internal audit independence as an external factor in this study.



**Figure 6.3: Highest and Lowest Mean Scores for Independence of Internal Audit**

### **6.10 Motivation of Internal Audit Staff (Internal Factor)**

Participants were asked to indicate the extent to which they disagreed (1) or agreed (5) with the 10 statements related to the motivation of internal audit staff. Table 6.15 presents the responses in ranked order.

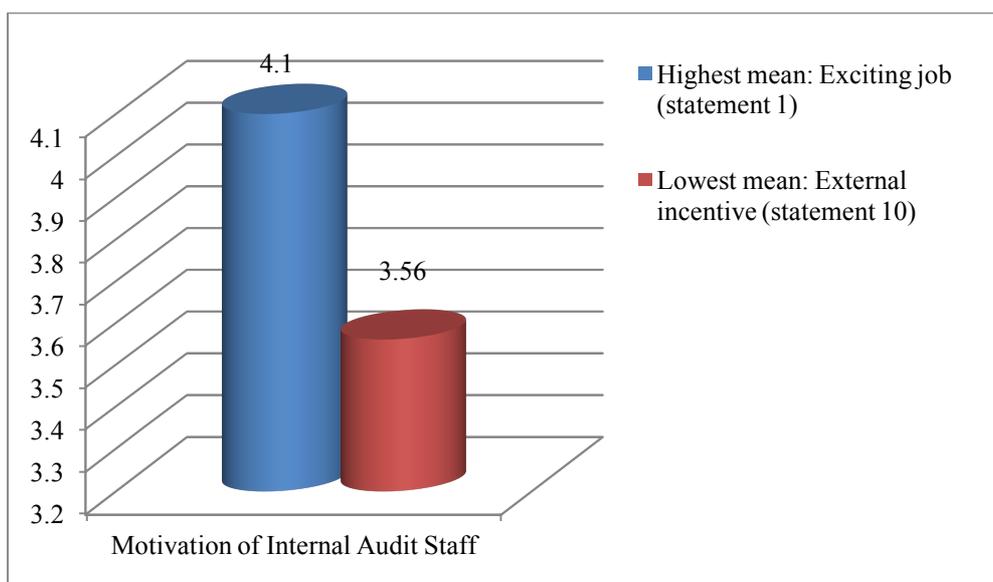
**Table 6.15: Motivation of Internal Audit Staff**

<b>Statement</b>	<b>Mean</b>	<b>St. Dev</b>	<b>Rank</b>
1. The job is very exciting.	4.1	1.304	1
2. External incentives such as bonuses and provisions are essential for how well I perform my job.	4.07	1.317	2
3. The job is meaningful.	4.05	1.285	3
4. My job is so interesting that it is motivating in itself.	4	1.289	4
5. If I had been offered better pay, I would have done a better job.	3.82	1.476	5
6. Sometimes I feel so inspired by my job that I nearly forget everything around me.	3.79	1.315	6
7. The tasks that I do at work represent a driving power in my job.	3.75	1.383	7
8. The tasks at work are enjoyable.	3.74	1.389	8
9. If I am supposed to put in extra effort in my job, I need to get extra pay.	3.62	1.422	9
10. It is important for me to have an external incentive to motivate me to do a good job.	3.56	1.44	10
Overall Mean, Motivation of Internal audit staff	3.85	0.98877	

Note: The researcher has reordered the statements from the highest to lowest mean.

Source: Survey data (2020).

Table 6.15 shows that Statement 1 received the highest mean score (4.10), indicating most participants strongly agreed with the statement: ‘My job is very exciting.’ This suggests that internal audit tasks are exciting for managers of internal audit units and internal audit employees. Statement 10, ‘It is important for me to have an external incentive to motivate me to do a good job,’ had the lowest mean score (3.56). The overall mean and standard deviation for this factor were 3.85 and 0.98877, respectively, indicating a range of scores. Figure 6.4 shows the highest and lowest mean scores for the motivation of internal audit staff as an internal factor.



**Figure 6.4: Highest and Lowest Mean Scores for Motivation of Internal Audit Staff**

### 6.11 Competence of Internal Auditors (Internal Factor)

Managers of internal audit units and internal audit employees were asked to indicate the extent to which they disagreed (1) or agreed (5) with the six statements related to the competence of internal auditors. Table 6.16 presents the responses in ranked order.

**Table 6.16: Competence of Internal Auditors**

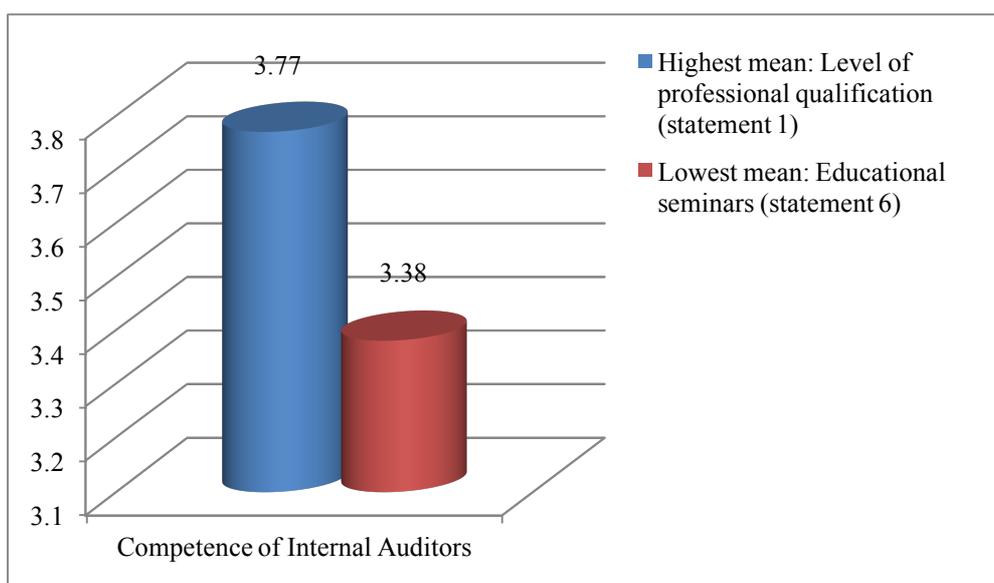
Statement	Mean	St. Dev	Rank
1. The professional knowledge of internal auditors is high.	3.77	1.198	1
2. Internal auditors are considered professionals.	3.61	1.216	2
3. Internal auditors are proactive.	3.58	1.3	3
4. Internal auditors have adequate education.	3.54	1.344	4
5. There is communication between internal auditors and other departments within the organisation.	3.48	1.324	5
6. Internal auditors attend educational seminars for continuous training.	3.38	1.412	6
Overall Mean, Competence of Internal Auditors	3.56	1.08928	

Note: The researcher has reordered the statements from the highest to lowest mean.

Source: Survey data (2020).

Table 6.16 shows that Statement 1 received the highest mean score (3.77), indicating that most participants strongly agreed with the statement: ‘The professional knowledge of internal auditors is high.’ This suggests that on average, the respondents in 145 government organisations believed they had high levels of knowledge and skill. Statement 6, ‘Internal auditors attend educational seminars for continuing training’, had the lowest mean score (3.38), indicating that, on average, the respondents in 145 government organisations were less likely to attend educational seminars. The standard deviation for this factor was 1.08928, indicating a range of scores.

In comparison, Kukuiah (2019) used similar items measurements in the context of the Ghanaian public sector and found that Statement 1 had the highest mean score (i.e., 4.02); this means that overall, internal auditors agreed with the following statement: ‘Internal auditors have high level professional knowledge.’ Kukuiah’s results also shows that Statement 2 had the lowest mean scores (i.e., 3.62), which suggests that on average, internal auditors were less likely to consider professionals. The results of the present and previous studies, which was conducted two years apart in different countries using a different sample, revealed similarities with the highest-ranked statements and the highest mean score but the results related to the lowest-ranked statements and the lowest mean score were different. Figure 6.5 shows the highest and lowest mean scores for auditor competence as an internal factor in this study.



**Figure 6.5: Highest and Lowest Mean Scores for Competence of Internal Auditors**

## 6.12 Internal Audit Effectiveness

Participants were asked to indicate the extent to which they disagreed (1) or agreed (5) with the 15 statements addressing internal audit effectiveness. Table 6.17 presents the responses in ranked order.

**Table 6.17: Internal Audit Effectiveness**

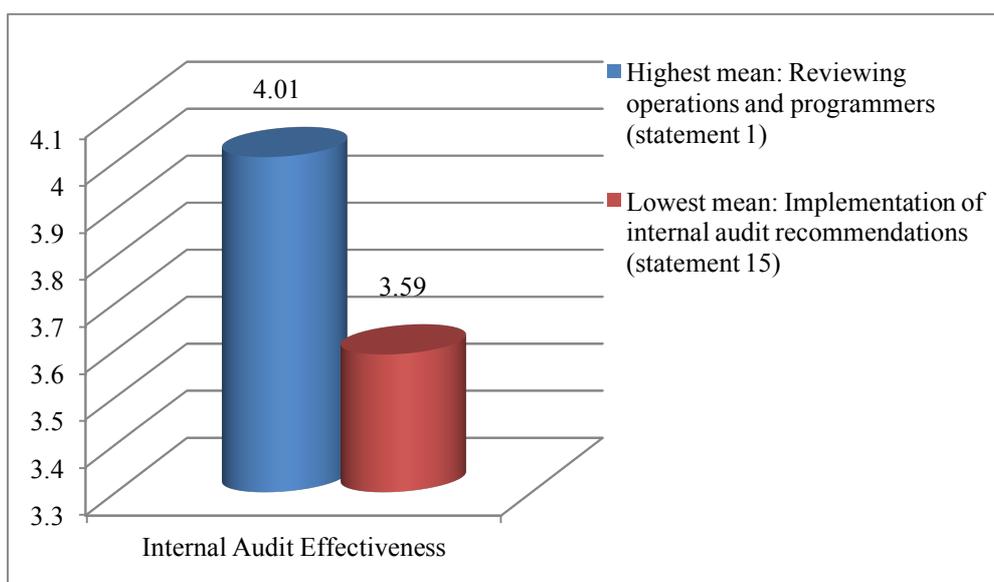
<b>Statement</b>	<b>Mean</b>	<b>St. Dev.</b>	<b>Rank</b>
1. Internal audit reviews operations and programmes to ascertain whether results are consistent with established objectives and goals.	4.01	1.171	1
2. Internal audit develops appropriate annual audit plans.	3.96	1.354	2
3. Internal audit reviews the compliance with applicable external laws and regulations.	3.91	1.314	3
4. Internal audit reviews the means of safeguarding assets.	3.91	1.341	4
5. Internal audit improves organisational performance.	3.89	1.237	5
6. Internal audit reviews the compliance with policies, plans, procedures and regulations.	3.87	1.309	6
7. Internal audit reviews the accuracy and reliability of financial reports.	3.85	1.317	7
8. Internal audit determines the adequacy and effectiveness of the organisation's systems of internal accounting and operating controls.	3.81	1.341	8
9. Internal audit reviews economic, effective and efficient use of resources.	3.76	1.413	9
10. Internal audit improves the organisation's productivity.	3.76	1.388	9
11. Internal audit evaluates and improves the effectiveness of risk management.	3.72	1.392	11
12. Internal audit evaluates the internal control systems.	3.69	1.411	12
13. Internal audit provides adequate follow-up to ensure that appropriate corrective action is taken and that it is effective.	3.69	1.421	12
14. Internal audit makes recommendations for improving the internal control system when appropriate.	3.69	1.422	14
15. Timely action is taken to implement the recommendations of the internal audit report.	3.59	1.419	15
<b>Overall Mean, Internal Audit Effectiveness</b>	<b>3.8</b>	<b>1.1631</b>	

Note: The researcher has reordered the statements from the highest to lowest mean.

Source: Survey data (2020).

As Table 6.17 shows, the overall mean (3.80) lies towards the positive end of the Likert scale. Together with the standard deviation of 1.16310, this indicates that respondents tended to agree rather than disagree with the 15 items measuring perceptions of internal audit effectiveness. Statement 1 received the highest mean score (4.01), indicating that most respondents believed internal audit departments reviewed operations and programs to ascertain whether results were consistent with established objectives and goals. Statement 15, 'Timely action is taken to implement the recommendations of the internal audit report,' had the lowest mean score (3.59), yet was still positive, indicating that, on average, the participants believed internal audit recommendations were generally implemented in a timely fashion.

In comparison, in a previous study conducted by Alzeban and Gwilliam (2014), the study found that Statement 6 had the highest mean score (i.e., 4.14); this means that the internal auditors generally agreed with the following statement: 'Internal audit reviews the compliance with policies, plans, procedures and regulations.' According to their results, Statement 9 resulted in the lowest mean score (i.e., 2.67), which indicates that the survey participants were dissatisfied with their organisation's compliance with policies, plans, procedures and regulations. The present study, which was conducted seven years later and utilised a different sample, produced different results. Figure 6.6 below shows the highest and lowest mean scores for the items addressing internal audit effectiveness in this study.



**Figure 6.6: Highest and Lowest Mean Scores for Internal Audit Effectiveness**

### **6.13 Impact of the External and Internal Variables on Internal Audit Effectiveness: Testing the Hypotheses**

This section examines the influence of the three external and four internal independent variables on perceptions of internal audit effectiveness (the dependent variable). The three external variables investigated in the study were top management support, organisational culture and internal audit independence. The four internal independent variables were the motivation of internal audit staff, the number of internal audit staff, the utilisation of IT and the competence of internal auditors. As mentioned above, the participants in this study were 145 managers of internal audit units and 145 internal auditors.

#### **6.13.1 Dependent Variable**

The dependent variable in this study was internal audit effectiveness, measured by the quality of performance delivered by internal audit departments. The overall measurement of internal audit effectiveness was based on different aspects of audit performance, as shown in Table 6.18.

**Table 6.18: Dependent Variable and Measurement Items**

<b>Dependent Variable</b>	<b>Measurement Items</b>
---------------------------	--------------------------

Internal Audit Effectiveness (IAE)	Capability to plan, enhancing the organisation's productivity, appraising the consistency of results with set goals and objectives, implementing internal audit recommendations, assessing and enhancing of risk management, assessing interior controls and making suggestions for improvement.
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### 6.13.2 Independent Variables

The study examines three external independent variables that could influence internal audit effectiveness (dependent variable). Three external independent variables were included in the first research model, namely, top management support (TMS), organisational culture (OC) and independence of the internal audit (IND). Four internal independent variables were included in the second research model, namely, motivation of internal audit staff (MOTI), size of the internal audit unit (SIZE), utilisation of IT (UIT) and competence of internal auditors (COMP). The overall measurement of three external independent variables and four internal independent variables are presented in Table 6.19.

**Table 6.19: Independent Variables and Measurement Items**

<b>External Independent Variables</b>	<b>Measurement Items</b>
Top Management Support (TMS)	Supporting the performance of internal audit, involvement in the internal audit plan, the provision by internal audit to top management of sufficient and relevant reports, responding to the internal audit report, and providing sufficient resources in terms of number of staff and budget.
Organisational Culture (OC)	Communication among staff, rewards, information systems, interpersonal trust and organisational structure.
Independence of the Internal Audit (IND)	Direct access to the board and top management, have unlimited access to records and the history of departments and personnel, no conflict of interest, have no executive influence in the appointment and removal of the head of

	internal audit and assign non-audit activities to internal auditors.
<b>Internal Independent Variables</b>	<b>Measurement Items</b>
Motivation of Internal Audit Staff (MOTI)	Tangible incentives and intangible rewards.
Size of the Internal Audit Unit (SIZE)	Number of internal audit staff.
Utilisation of Information Technology (UIT)	Number of hours IT is used per day for internal audit activity.
Competence of Internal Auditors (COMP)	Professional knowledge, employee professionalism, employee proactivity, communication between employee, training, and educational qualifications.

## 6.14 Multivariate Analysis

Multivariate analysis is a frequently used technique to analyse data that encompass more than one variable, particularly when there are correlated variables (Field 2017). A multivariate analysis was used in this study to test the relationship of internal audit effectiveness with the external and internal factors. Before the analysis was conducted, the normality of the variables was assessed. According to Aksah et al. (2016), a normality test is used to determine whether the dataset of research variables shows normal distribution. Most variables in this study were normally distributed; kurtosis value and skewness value were zero. Values of zero for kurtosis and skewness indicate no departures from normality; therefore, normality presented no concern (George 2011; Pallant 2020). Further, positively and negatively skewed variables were converted using natural logarithmic and square root transformations. While an attempt was made to convert the skewed variables, it is usually assumed that normality is not a problem in large samples (Pallant 2020), such as that used in this study. The normality assumptions can be examined using graphic and statistic tests; both such tests were used in this study. Figures G1 to G8 in Appendix G present the graphs for all the continuous variables. Table 6.20 presents the kurtosis and skewness values in detail.

**Table 6.20: Kurtosis and Skewness**

<b>Variables</b>	<b>Kurtosis Value</b>	<b>Skewness Value</b>
TMO	-0.389	-0.186

OC	-0.572	-0.261
IND	-0.524	-0.171
MOTI	-0.573	-0.224
SIZE	-1.007	0.639
UIT	0.922	0.177
COMP	-0.790	-0.082
IAE	-0.667	0.026

Source: Survey data (2020).

As shown in Table 6.20, the results of the kurtosis and skewness tests were consistent with the normal distribution. Thus, the values of the kurtosis test ranged between -1.007 and + 0.922 while the skewness values ranged between -0.261 and + 0.639.

## 6.15 Suitability of the Regression Model

According to Pallant (2020), multiple regression is regarded as a ‘finicky’ statistical technique. It was used in this study to analyse the data and to test the hypotheses. The independent and dependent variables for all 145 government organisations were entered into an SPSS regression. The dataset was then analysed for compatibility with the basic assumptions of multiple regression analysis. Pallant (2020) and Cronk (2019) recommend procedures to handle certain assumptions in a compatibility check for multiple regression analysis. These assumptions are sample size, normality of residuals, outliers and multicollinearity.

### 6.15.1 Sample Size

According to Cronk (2019), the sample size should be at least five times the total number of independent variables in the research model. According to Pallant (2020), a higher number, such as 15, is appropriate for an individual predictor in the model. Tabachnick, Fidell and Ullman (2013) provide a formula for computing the necessary sample size based on the number of independent variables:  $N > 50 + 8m$  (where  $m$  = the total number of independent variables). Based on this formula, a research study with five independent variables needs a sample of at least 90. This study examined three external independent variables and four internal independent variables. There were 290 aggregate respondents in the study. At least 75 responses are needed to conduct a multiple regression for the

external independent variables and at least 82 responses are needed to conduct a multiple regression for the internal independent variables. Therefore, the sample size in this study was adequate for multiple regression analyses of the external and internal independent variables.

### **6.15.2 Normality of Residuals**

Multiple regression assumes that the residuals scatterplots are distributed normally. Field (2017) states that residuals are the differences between the gained scores and estimated dependent variable scores. A multiple regression analysis should only be used when the residuals between estimated and obtained values are distributed normally (Pallant 2020). To test the normality of the residuals, the normal probability plots (P-P) for the regression standardised residuals must be calculated (see Figures H1 and H2 in Appendix H). From the figures, it is evident that the points for the external and internal factors were closer to the diagonal line, indicating comparatively normal distribution—a likely result with a Likert scale (George 2011; Hair et al. 2014).

### **6.15.3 Outliers Test**

Outliers are data values that differ from the other values in a dataset. Outliers may occur for many reasons, including data entry errors, instrument errors or observation errors (Field 2017; Pallant 2020). The treatment of outliers in regression studies has been a topic of debate (Field (2017)). While some recommend incorporating all data points (Cooksey 2007; Cronk 2019), others such as Hair et al. (2014) and Pallant (2020), believe that values that could have a disproportionate impact on the regression results should be identified individually and, if needed, evaluated further. Randomly excluding outliers can allow the underlying fundamental patterns to surface more clearly. The appropriate treatment of outliers depends on the nature of the data and the phenomenon under investigation. Outliers are most problematic if their standardised residual is either less than -3.3 or more than 3.3 (Cohen et al. 2013; Field 2017). The scatterplot of the data from this study shows that no such outliers occurred (see Figure H3, Appendix H). This result is also not surprising given the Likert scale used in the study.

#### 6.15.4 Multicollinearity

According to Pallant (2020) and Field (2017), multicollinearity exists when the correlation between independent variables is high. Multicollinearity can significantly affect a multiple regression analysis, especially the consistency of computed significance measures. To check for multicollinearity, the variance inflation factor (VIF) and tolerance measures for the regression models were calculated and evaluated for the internal and external independent variables. A tolerance value below 0.10 and a VIF value over 10 could indicate serious multicollinearity issues (Field 2017).

**Table 6.21: Multicollinearity for External Independent Variables**

Variables	Multicollinearity Statistics	
	Tolerance	VIF
TMS	.709	1.410
OC	.681	1.468
IND	.692	1.445

**Table 6.22: Multicollinearity for Internal Independent Variables**

Internal Independent Variables	Multicollinearity Statistics	
	Tolerance	VIF
MOTI	.853	1.173
SIZE	.745	1.342
UIT	.731	1.369
COMP	.720	1.390

The multicollinearity factors for the internal and external independent variables in the regression models are shown in Tables 6.21 and 6.22. The tolerance levels were all above 0.10 and the VIFs were under 10. These levels are deemed acceptable, indicating that multicollinearity was not a significant problem here.

#### 6.16 Correlation Analysis

A correlation analysis can determine the strength and direction of the linear relationship between two variables (Pallant 2020). Pearson's correlation coefficients were computed to measure the relationship between internal audit effectiveness and the external and

internal independent variables. Tables 6.23 and 6.24 show the Pearson's correlations and their significance levels for the external and internal dependent variables.

**Table 6.23: Pearson's Correlation for External Independent Variables**

NO	External Variables	1	2	3	4
1	IAE	1			
2	TMS	.523**	1		
3	OC	.497**	.472**	1	
4	IND	.499**	.459**	.492**	1

\*\* Correlation is significant at the 0.01 level

**Table 6.24: Pearson's Correlation for Internal Independent Variables**

NO	Internal Variables	1	2	3	4	5
1	IAE	1				
2	MOTI	.399**	1			
3	SIZE	.479**	.315**	1		
4	UIT	.499**	.295**	.400**	1	
5	COMP	.523**	.303**	.415**	.446**	1

\*\* Correlation is significant at the 0.01 level

As shown in Table 6.23, there was a positive correlation between the dependent variable and the three external independent variables. Further, TMS had the most significant and positive correlations with other variables at  $p < 0.01$ . Overall, all values were significant at  $p < 0.01$ . This means that all three external independent variables significantly correlated with the dependent variable in the study. As shown in Table 6.24, there was a positive correlation between the dependent variable and the four internal independent variables. Further, COMP had most significant and positive correlations with other variables at  $p < 0.01$ . Overall, all values were significant at  $p < 0.01$ . This means that all four internal independent variables significantly correlated with the dependent variable in the study.

## 6.17 Research Model Specifications

This section describes the research models formulated to test the study hypotheses. Two OLS regression models were used. The first model was used to examine the relationship

between the dependent variable (internal audit effectiveness) and the three independent variables. SPSS regression was used for the analysis.

$$IAE = b_0 + b_1TMS + b_2OC + b_3IND + e_i$$

where:

IAE = Internal Audit Effectiveness

TMS = Top Management Support

OC = Organisational Culture

IND = Independence of Internal Audit

The research hypotheses for the external factors were:

*H1. Top management support is significantly associated with internal audit effectiveness.*

*H2. Organisational culture is significantly associated with internal audit effectiveness.*

*H3. Independence of internal audit is significantly associated with internal audit effectiveness.*

The second OLS model used to examine the study hypotheses is presented below. A multiple regression was performed with internal audit effectiveness as a dependent variable and four independent variables.

$$IAE = b_0 + b_1MOTI + b_2SIZE + b_3UIT + b_4COMP + e_i$$

where:

IAE = Internal Audit Effectiveness

MOTI = Motivation of Internal Audit Staff

SIZE = Size of Internal Audit Team

UIT = Utilisation of IT

COMP = Competence of Internal Auditors

The research hypotheses for the internal factors were:

*H4. The motivation of the internal audit staff is significantly associated with internal audit effectiveness.*

*H5. The size of the internal audit team (in terms of the number of internal audit employees) is significantly associated with internal audit effectiveness.*

*H6. The utilisation of IT (in terms of the number of hours IT is used per day for internal audit activity) is significantly associated with internal audit effectiveness.*

*H7. The competence of internal auditors is significantly associated with internal audit effectiveness.*

## **6.18 Regression Models Results**

The results of the multiple regression analyses identified which of the external and internal variables in the models were important indicators of internal audit effectiveness. As shown in the summary of the models (Tables 6.23 and 6.24), the indicators of internal audit effectiveness were explored. The R squared value was used to identify the level of the variance in the dependent variable according to the models. Pallant (2020) explains that a good model has a high R squared. Together, the external factors accounted for approximately 40% ( $R^2 = 0.396$ ) of the variance in internal audit effectiveness. The remaining 60% was caused by other factors not included in the model. Similarly, the internal factors accounted for approximately 43% ( $R^2 = 0.428$ ) of the variation in internal audit effectiveness. The remaining 57% was caused by other variables not included in the model.

**Table 6.25: Regression Results for External Independent Variables**

R = 0.629		R <sup>2</sup> = 0.396		Adjusted R <sup>2</sup> = 0.390	
F = 62.520		Std. Error of the Estimate = 1.13976		Sig. = 0.000	
Variable	B	Standard Error of B	B. Beta	t-Value	P-Value
Constant	1.020	0.220		4.643	0.000**
TMS	0.306	0.056	0.300	5.494	0.000**
OC	0.252	0.060	0.233	4.193	0.000**
IND	0.238	0.053	0.247	4.468	0.000**

\*\* sig. at 0.01. \* sig. at 0.05.

Predictors: (Constant), *Top Management Support, Organisational Culture and Independence of Internal Audit.*

**Table 6.26: Regression Results for Internal Independent Variables**

R = 0.654		R <sup>2</sup> = 0.428		Adjusted R <sup>2</sup> = 0.420	
F = 52.234		Std. Error of the Estimate = 1.10915		Sig. = 0.000	
Variable	B	Standard Error of B	B. Beta	t-Value	P-Value
Constant	0.759	0.236		3.221	0.001**
MOTI	0.169	0.050	0.165	3.359	0.001**
SIZE	0.057	0.014	0.212	4.045	0.000**
UIT	0.144	0.031	0.243	4.591	0.000**
COMP	0.266	0.052	0.275	5.148	0.000**

\*\* sig. at 0.01. \* sig. at 0.05.

Predictors: (Constant) *Motivation of Internal Audit Staff, Size of Internal Audit Team, Utilisation of IT and Competence of Internal Auditors.*

The overall outcomes shown in Table 6.25 and Table 6.26 indicate that the models were significant. The regression weights indicated which of the predictors contributed most to the multiple correlations; these are represented by beta values because this standardises all of the independent variables to a common scale, allowing direct comparison of the contribution of each independent variable to the multiple correlations. According to Pallant (2020), the beta value shows the number of standard deviations that the outcome

will change as a result of one standard deviation change in the predictor. Thus, the value of beta indicates the importance of a predictor to the model. A higher beta indicates that a specific predictor makes a greater contribution to the outcome. As shown above, the beta values for the external and internal independent variables were high, indicating a strong effect on the dependent variable. This implies that an increase in the independent variables would result in an increase in the dependent variable. This finding is similar to those of most previous studies (Al-Twaijry et al. 2003; Alzeban & Gwilliam 2014; Cohen & Sayag 2010; Mihret & Yismaw 2007).

As shown in Table 6.25, the beta values for the external factors TMS, OC and IND were statistically significant ( $p < .01$ ). The beta values for these external variables were 0.300, 0.233 and 0.247, respectively; this suggests that TMS, with the highest beta value, was the main driver of the external variables. Further, the p-value for TMS was significant ( $p < .01$ ), indicating support for Hypothesis 1. The p-value for OC was also significant ( $p < .01$ ), supporting Hypothesis 2. The p-value for IND was significant as well ( $p < .01$ ), indicating support for Hypothesis 3. These results indicate a strong positive correlation between these three independent external variables and the dependent variable.

Table 6.26 shows the beta values for the internal factors MOTI, SIZE, UIT and COMP; these beta values were also statistically significant ( $p < .01$ ). The beta values for these internal variables were 0.165, 0.212, 0.243 and 0.275, respectively, which implies that the main driver among the internal dependent variables was COMP. The p-value for MOTI was significant ( $p < .01$ ), indicating support for Hypothesis 4. The p-value for SIZE was also significant ( $p < .01$ ), indicating support for Hypothesis 5. The p-value for UTI was significant as well ( $p < .01$ ), indicating support for Hypothesis 6. Finally, the p-value for COMP was also significant ( $p < .01$ ), indicating support for Hypothesis 7. These results showed a strong positive correlation between the four independent variables and the dependent variable. Tables 6.27 and 6.28 summarise the hypotheses testing results for the external and internal factors.

**Table 6.27: Summary of Hypotheses Testing Results for the External Factors**

<b>Hypotheses for the External Factors</b>	<b>Results and Level of Significance</b>
<i>H1. Top management support is significantly associated with internal audit effectiveness.</i>	Supported, significant at $p < .01$
<i>H2. Organisational culture is significantly associated with internal audit effectiveness.</i>	Supported, significant at $p < .01$
<i>H3. Independence of internal audit is significantly associated with internal audit effectiveness.</i>	Supported, significant at $p < .01$

**Table 6.28: Summary of Hypotheses Testing Results for the Internal Factors**

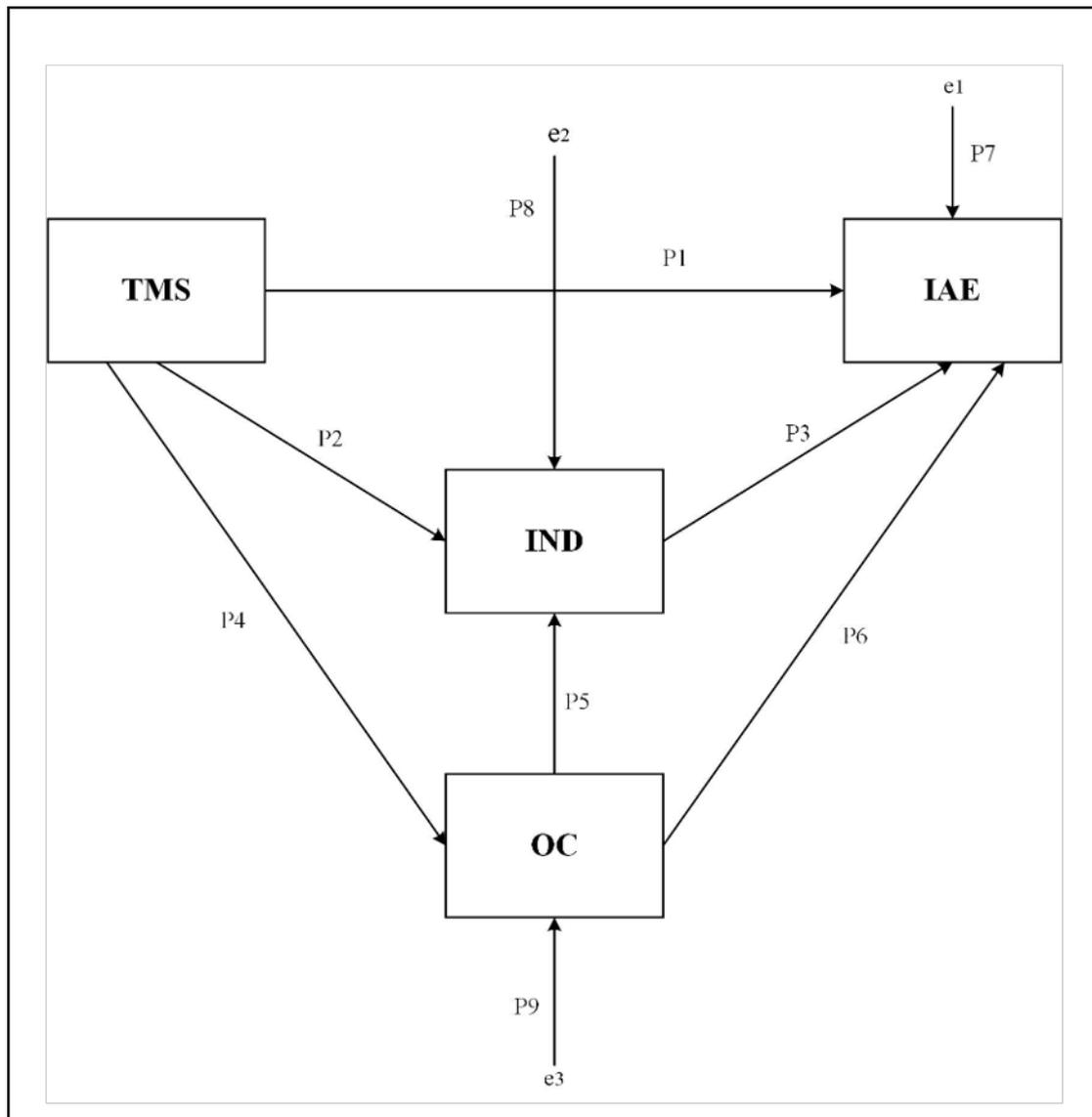
<b>Hypotheses for the Internal Factors</b>	<b>Results and Level of Significance</b>
<i>H4. The motivation of the internal audit staff is significantly associated with internal audit effectiveness.</i>	Supported, significant at $p < .01$
<i>H5. The size of the internal audit team (in terms of the number of employees) is significantly associated with internal audit effectiveness.</i>	Supported, significant at $p < .01$
<i>H6. The utilisation of IT (in terms of the number of hours IT is used per day for internal audit activity) is significantly associated with internal audit effectiveness.</i>	Supported, significant at $p < .01$
<i>H7. The competence of internal auditors is significantly associated with internal audit effectiveness.</i>	Supported, significant at $p < .01$

## 6.19 Path Analysis Results

A path analysis was used in this study to examine the associations between the variables. According to Garson (2013), path analysis provides quantitative estimates of the causal links among sets of variables. In the present study, the interview data and analysis were described in Chapter 5, highlighting the need for further analysis of the interconnections between the variables. It is also necessary to take other, more formal models into account. Therefore, in the present study, a path analysis was conducted, allowing certain pathways to be directed by the interview responses, which involved some degree of subjectivity (see Appendix I).

The interview data suggested that all three external factors impacted each other: top management support (TMS) impacted internal audit effectiveness (IAE) and the other external independent variables. The path diagram for the external factors (see Figure 6.7) illustrates the relationships between the four variables (three external independent variables and one dependent variable). According to Lleras (2005), P presents the path for each variable; the path coefficient is calculated later. Therefore, Figure 6.7 presents the proposed path diagram for the external factors. TMS directly impacted IAE (P1). However, TMS also indirectly impacted IAE. For example, TMS impacted IND (P2), which in turn impacted IAE (P3). TMS also impacted OC (P4), which also impacted IAE (P6). OC also impacted IND (P5), which then impacted IAE (P3).

The interview data further suggested that all four internal factors impacted each other; internal auditor competence (COMP) played a fundamental role and influenced internal audit effectiveness as well as the other internal independent variables. The path diagram illustrates the relationships between the five variables (four internal independent variables and one independent variable) (see Figure 6.8). Here, COMP directly impacted IAE (P1), but COMP also indirectly impacted IAE. For instance, COMP impacted UTI (P2), which in turn impacted IAE (P3). COMP also impacted SIZE (P4), which in turn impacted IAE (P6). Moreover, SIZE impacted UTI (P5), which in turn impacted IAE (P3). COMP also impacted MOTI (P8), which impacted IAE (P9). MOTI also impacted SIZE (P7), which then impacted IAE (P9).



**Figure 6.7: Path Diagram for the External Factors**

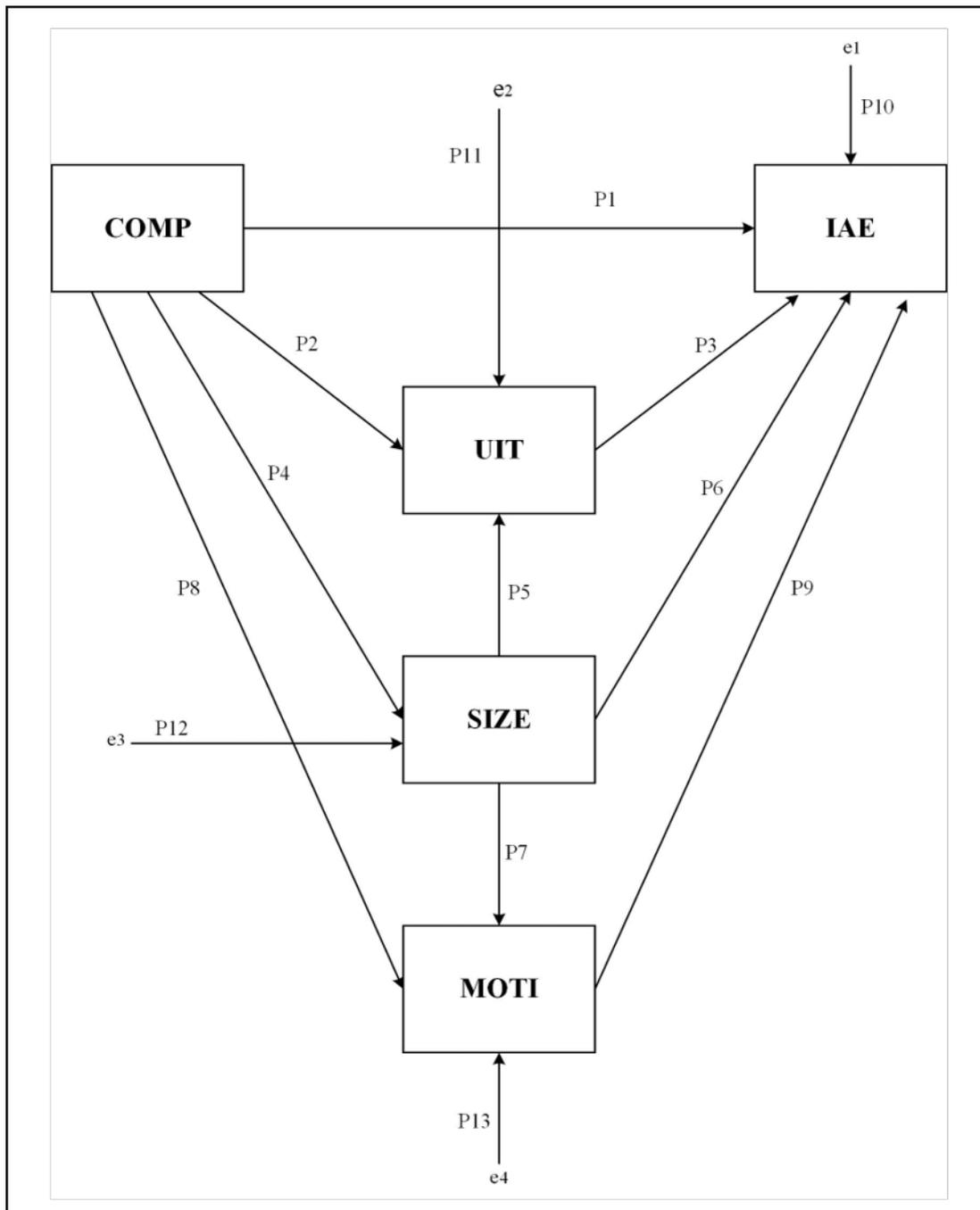
As can be seen in Figure 6.7, additional arrows labelled ‘e1,’ ‘e2,’ and ‘e3,’ lead from outside the diagram to IND, OC and IAE. These arrows indicate the sum of unaccounted variance in each variable (Alzeban & Gwilliam 2012; Garson 2013; Lleras 2005). For instance, the arrow from e1 to IAE (P7) denotes the sum of error resulting from variance to IAE that is not accounted for by TMS, IND, OC. Similarly, the arrow from e2 to IND (P8) denotes the sum of error resulting from variance to IND that is not accounted for by TMS. The arrow from e3 to OC (P9) refers to the sum of error stemming variance to OC that is not explained by TMS. Lleras (2005) suggests that the path coefficients or the standard regression coefficient, called the beta value, and the R<sup>2</sup> for the error term paths should be calculated to estimate the amount of each proposed path. To calculate the paths in Figure 6.7 that affected the external variables, three equations were formulated:

1.  $IAE = x_1TMS + x_2IND + x_3OC + e_1$

2.  $IND = x_1TMS + e_2$

3.  $OC = x_1TMS + x_2IND + e_3$

Equation 1 shows the standardised coefficients for TMS, IND and OC; that is, the paths P1, P3 and P6, respectively. In Equation 2, the coefficient for TMS provides P2 while the coefficients in Equation 3 for TMS and IND provide P5 and P4, respectively. All three equations are multiple regression equations and the path coefficients are provided by the standardised regression coefficients. To compute the three error terms, R2 was subtracted from 1 for each equation; the square root was taken from the result (Alzeban & Gwilliam 2012; Garson 2013; Lleras 2005). Appendix I provides the results of the multiple regression for all three equations. The relevant path coefficients are shown in Figure 6.9.



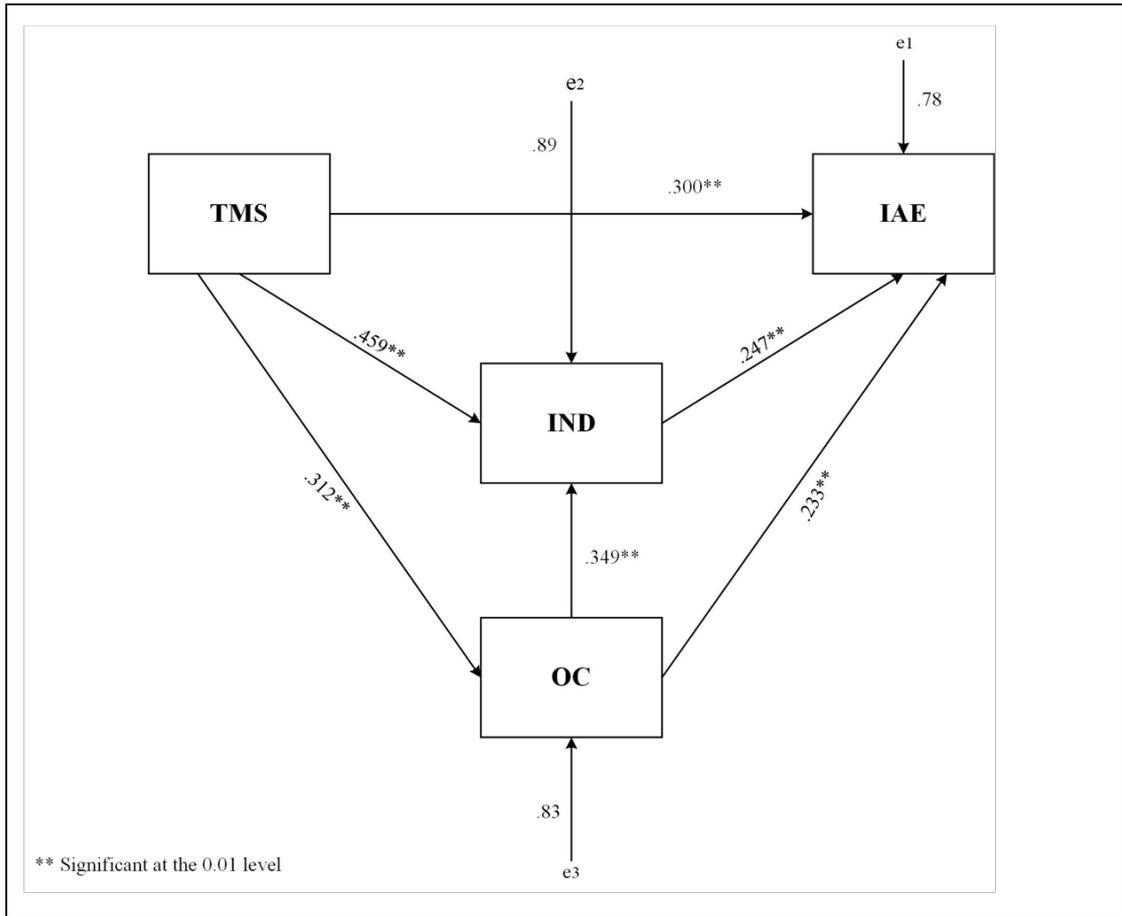
**Figure 6.8: Path Diagram for the Internal Factors**

In Figure 6.8 above, additional arrows run from ‘e1,’ ‘e2,’ and ‘e3’ to UIT, SIZE, MOTI and IAE. As in Figure 6.8, these arrows indicate the variance in each variable that is not otherwise accounted for (Lleras 2005). For instance, the arrow from e1 to IAE (P10) denotes the sum of error resulting from the variance to IAE that is not accounted for by COMP, UIT, SIZE or MOTI. The arrow from e2 to UIT (P11) denotes the sum of error stemming from variance to UIT that is not accounted for by COMP. The arrow from e3 to SIZE (P12) denotes the sum of error stemming from variance to SIZE that is not

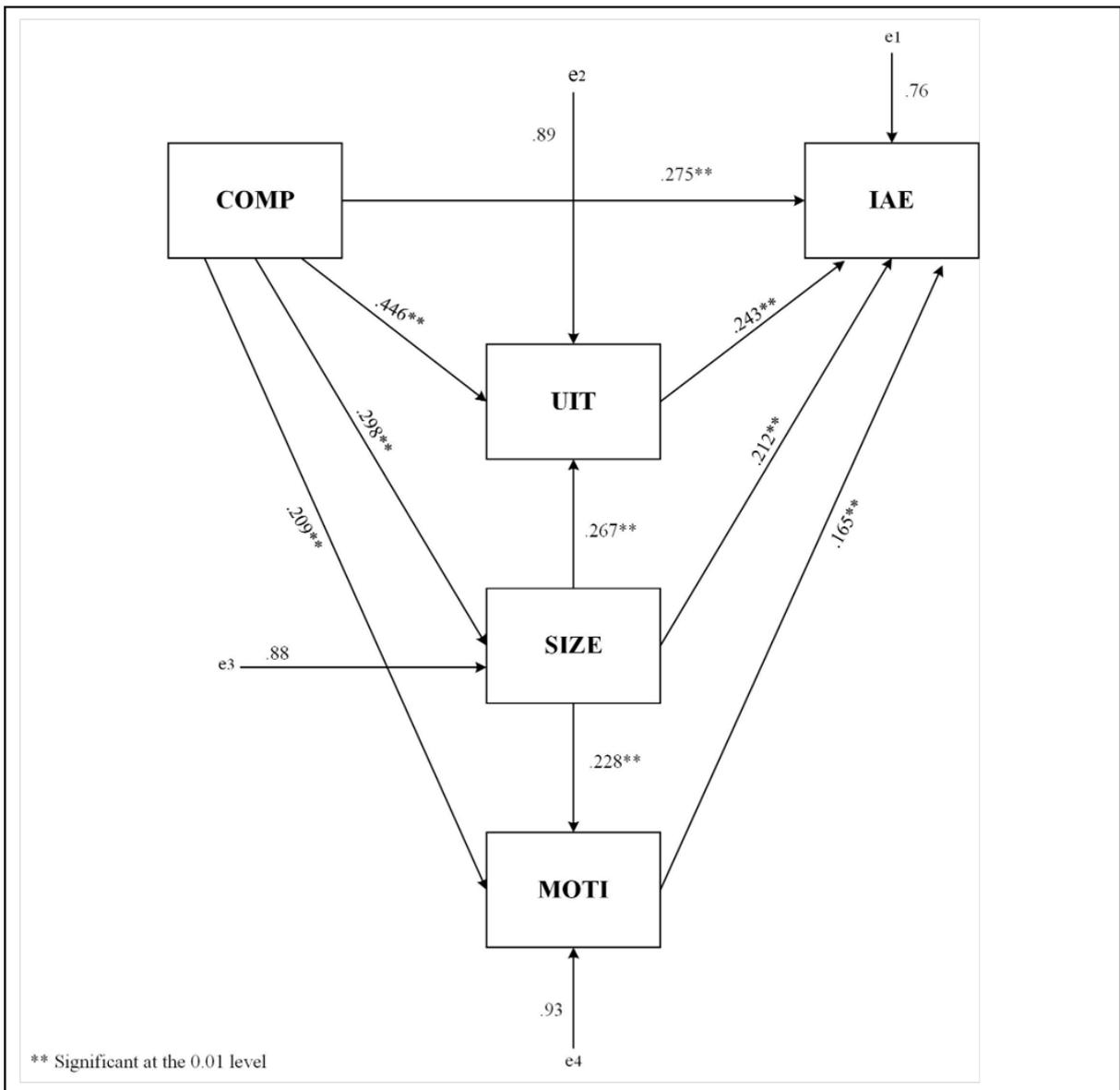
accounted for by COMP. Finally, the arrow from e4 to MOTI (P13) denotes the sum of error stemming from variance to MOTI that is not explained by COMP. To calculate these paths (see Figure 6.8), four equations of regression were formulated:

1.  $IAE = x_1COMP + x_2UIT + x_3SIZE + x_4MOTI + e_1$
2.  $UIT = x_1COMP + e_2$
3.  $SIZE = x_1COMP + x_2UIT + e_3$
4.  $MOTI = x_1COMP + x_2SIZE + e_4$

Equation 1 shows the standardised coefficients for COMP, UIT, SIZE and MOTI; the coefficients indicate P1, P3, P6 and P9. In Equation 2, the coefficient for COMP indicates P2. In Equation 3, the coefficients for COMP and UIT provide P4 and P5, respectively. Likewise, in Equation 4, the coefficients for COMP and SIZE provide P8 and P7, respectively. All four are multiple regression equations and the path coefficients were calculated from the standardised regression coefficients. To compute the error terms, R<sup>2</sup> was subtracted from 1 for each equation and the square root was taken from the result (Alzeban & Gwilliam 2012; Garson 2013; Lleras 2005). Appendix I provides the multiple regressions for all four equations. The relevant path coefficients are shown in Figure 6.10.



**Figure 6.9: Path Diagram for the External Factors with Path Coefficients**



**Figure 6.10: Path Diagram for the Internal Factors with Path Coefficients**

As shown in Figure 6.9, for the external factors, the results indicate a significant association between TMS and the other two variables, IND ( $\beta = 0.247$ ,  $p < 0.01$ ) and OC ( $\beta = 0.233$ ,  $p < 0.01$ ). The results also indicate a strong relationship between OC and IND ( $\beta = 0.349$ ,  $p < 0.01$ ). These outcomes prove that the foundation of the effectiveness framework is TMS, which impacted all other variables. To calculate the total impact of TMS on IAE, its indirect impacts must be added to its direct impact. The coefficients for each path from TMS to IAE were multiplied to compute the indirect impacts. Table 6.29 shows the computation of the indirect impacts of TMS on IAE.

**Table 6.29: Indirect Impacts of TMS on IAE**

<b>Paths from TMS to IAE</b>	<b>Indirect Impacts of TMS on IAE</b>	<b>Amount</b>
P2 x P3	(0.459 x 0.247)	0.113
P2 x P3 x P5	(0.459 x 0.247 x 0.349)	0.038
P4 x P6	(0.312 x 0.233)	0.072
Total indirect impacts of TMS on IAE		0.223

The total impact of TMS on IAE was total impact = direct impact + indirect impacts

$$0.523 = 0.300 + 0.223$$

The final result (0.523) was the same as that calculated when the regression was run only between TMS and IAE (see Appendix I). The TMS coefficient (0.523) describes the total impact of TMS on IAE, that is, the aggregate of its indirect and direct impacts. This finding strongly supports the perception that TMS is the main driver impacting internal audit effectiveness.

Regarding internal factors, as shown in Figure 6.10, there is a strong relationship between COMP and the other three variables, UTI ( $\beta = 0.243$ ,  $p < 0.01$ ); SIZE ( $\beta = 0.212$ ,  $p < 0.01$ ); and MOTI ( $\beta = 0.165$ ,  $p < 0.01$ ). The results also indicate a significant association between SIZE and MOTI ( $\beta = 0.228$ ,  $p < 0.01$ ). These calculations show that COMP, which impacts the other internal variables, is the foundation of IAE. To calculate the total impact of COMP on IAE, the indirect impacts were aggregated with the direct impact. The coefficients for each path from COMP to IAE were multiplied to compute the indirect impact. Table 6.30 displays the computation of the indirect impacts of COMP on IAE.

**Table 6.30: Indirect Impacts of COMP on IAE**

<b>Paths from COMP to IAE</b>	<b>Indirect impacts of COMP on IAE</b>	<b>Amount</b>
P2 x P3	(0.446 x 0.243)	0.108
P4 x P6	(0.298 x 0.212)	0.064
P2 x P6 x P5	(0.446 x 0.267 x 0.212)	0.026
P8 x P9	(0.209 x 0.165)	0.036
P4 x P7 x P9	(0.298 x 0.228 x 0.165)	0.014
Total indirect impacts of COMP on IAE		0.248

The total impact of COMP on IAE is: total impact = direct impact + indirect impacts

$$0.523 = 0.275 + 0.248$$

The final result (0.523) was the same as that calculated when the regression was run only between COMP and IAE (see Appendix I). The COMP coefficient (0.523) describes the total impact of COMP on IAE, that is, the aggregate of its indirect and direct impacts. This finding strongly supports the perception that COMP is the key driver impacting internal audit effectiveness.

## **6.20 Conclusion**

This chapter presented the results of the analysis of 145 questionnaires completed by managers of internal audit units and 145 questionnaires filled out by internal auditors. Descriptive statistics and inferential analysis were used to analyse the data. The first section of the chapter presented the descriptive statistical analysis (standard deviations, percentages, frequencies and means) of the questionnaire data. The second part of the chapter tested the hypotheses by analysing the external and internal factors. The results of the multiple regression supported the three external factor hypotheses. Top management support was the main driver of internal audit effectiveness. The results of the multiple regression also supported the four internal factor hypotheses. Of these, competence was the dominant driver of internal audit effectiveness. The next chapter discusses the findings of the qualitative and quantitative analyses.

## **Chapter 7: Discussion of the Findings of Qualitative and Quantitative Analyses**

### **7.1 Overview of Results**

This study uses resource-based theory to determine the effect of certain internal and external factors on internal auditing effectiveness in the Saudi public sector. Therefore, the study assessed the relationships between internal audit effectiveness and three external factors (top management support, organisational culture and independence of internal audit) and four internal factors (motivation of internal audit staff, size of the internal audit team, utilisation of IT and competence of internal auditors). The data were extracted from interviews with 12 managers of internal audit units and 12 internal audit employees.

The interview data unanimously confirmed that top management support exerted the greatest impact on internal audit effectiveness. The data also indicate that there was a direct association between the three external factors of the study. Three hypotheses about the impact of external factors on the effectiveness of internal audit were tested using a multiple regression analysis. The results of this analysis supported the three hypotheses on top management support, organisational culture and the independence of the internal audit. In line with resource-based theory, the results indicate that the main external factors impacting internal audit effectiveness were top management support, organisational culture and the independence of the internal audit. Of the external factors, top management support was the main driver of internal audit effectiveness; it was also the most important external factor in the first research model (see Chapter 6).

The interviews also provided details on the internal factors impacting internal audit effectiveness, suggesting that internal auditor competence directly impacted internal audit effectiveness in the Saudi public sector. The data revealed a direct association between the four internal factors of the study. Four hypotheses about the impact of internal factors on the effectiveness of the internal audit were also tested using a multiple regression analysis. The results of this analysis supported the four hypotheses on motivation of internal audit staff, size of the internal audit team, utilisation of IT and competence of internal auditors. In line with resource-based theory, the internal factors impacting

internal audit effectiveness were motivation of internal audit staff, size of the internal audit team, utilisation of IT and competence of internal auditors. Of the internal factors, competence was the dominant driver of internal audit effectiveness; it was also the most important internal factor in the second research model (see Chapter 6). In line with resource-based theory, Saudi public organisations should capitalise on effective internal audits to support organisational goals and gain a competitive advantage.

The data from interviews with 12 GAB employees working as external auditors revealed that the following factors hinder the establishment of IAFs in Saudi public organisations: misunderstanding the role of internal auditing, lack of support from the GAB, financial issues, lack of qualified employees, lack of top management support and lack of internal audit independence. The interview data indicated that the ability to hire qualified employees significantly affected the establishment of IAFs. However, understanding the role of internal audit, support from the GAB, financial resources, support from top management and independence also influenced the establishment of IAFs in the Saudi public sector.

The following sections discuss the results of the qualitative analysis presented in Chapter 5 and the quantitative analysis presented in Chapter 6. The present chapter also answers the research questions described in Chapter 1. The chapter is divided into five sections: (i) external factors impacting internal audit effectiveness, (ii) internal factors impacting internal audit effectiveness, (iii) a revised model of the study, (iv) factors hindering the establishment of IAFs and (v) a short summary.

## **7.2 External Factors impacting Internal Audit Effectiveness**

This section answers the following research questions of this study:

- *RQ1*. How do the external factors such as top management support, organisational culture and independence of internal audit impact the effectiveness of internal audit in the Saudi public sector?
- *RQ3*. To what extent do the external factors impact the effectiveness of internal audit in the Saudi public sector?

External factors are those outside the control of IAFs that impact internal audit effectiveness in the Saudi public sector. Based on the resource-based theory, analysis of

interview data and questionnaires identified three external factors that impacted internal audit effectiveness, namely, top management support, organisational culture and independence of internal audit. In line with resource-based theory, the study found that these factors affect internal audit effectiveness in the Saudi public sector.

### **7.2.1 Top Management Support**

Using resource-based theory, the study identified top management support as the first external factor that significantly impacted internal audit effectiveness. Resource-based theory suggests that this factor is one of the most important resources for improving internal audit effectiveness. Nasibah (2015) reports similar findings, stating that internal audit success is significantly impacted by internal audit quality and by the support, budget and resources provided by upper management. According to Alkebsi and Aziz (2018), who also use resource-based theory, there is a relationship between the role of top management and an organisation's competitive edge. They argue that organisations can gain a competitive advantage if top management recruits well-qualified internal auditors and equips them with the necessary resources to do their work on a high level. Salehi (2016) and Alzeban and Gwilliam (2014) also describe how top management can support internal auditing. According to these authors, management should participate in the internal audit plan and management's suggestions should also be given sufficient consideration by the chief audit executive. Further, the IAF should provide top management with sufficient, reliable and relevant reports about the work that was carried out as well as recommendations and conclusions. According to Ahmad et al. (2009), fulfilling internal audit recommendations could also be viewed as a form of managerial support while implementing those recommendations would boost organisations' overall effectiveness substantially.

The interview data identified a number of reasons for lack of top management support, as perceived by internal audit managers and employees. The most notable of these was the highest government officials' apparent ignorance of and lack of attention to the role of internal auditing. Other reasons included internal auditors' lack of freedom of enquiry, which ultimately affected their independence, and the organisation's general resistance to the establishment of IAFs. Other outcomes that emerged from the interview responses were insufficient resources, lack of funds, lack of support for audit plans and lack of acceptance of internal audit recommendations. The interview data also indicated that the

poor relationship between IAFs and top management could result in a lack of support for IAFs in the Saudi public sector.

Table 4.6 (Chapter 4) shows items that were used to measure management support and to evaluate the association between top management support and internal audit effectiveness. The questionnaire responses indicate that internal audit managers and staff had a moderately positive perception of top management support for internal auditing. However, most participants indicated dissatisfaction with the budgets allocated to internal audit departments and with the total number of audit staff. Therefore, it could be extrapolated that top management support is needed for internal audit departments to have adequate resources. This would include increasing the number of staff and allocating sufficient budget, both of which are essential for effective internal auditing.

#### *7.2.1.1 Hypothesis on Top Management Support for Internal Audit*

This study used a multiple regression analysis to examine the relationship between top management support (external independent variable) and the effectiveness of the internal audit (dependent variable). Table 6.23 shows a strong correlation between top management support and internal audit effectiveness ( $p < 0.01$ ). The first multiple regression model indicates that top management support had a positive beta value and was statistically significant; this suggests that, of the variables studied here, top management support was the largest contributor to internal audit effectiveness ( $\beta = .300$ ,  $t = 5.494$ ,  $p < 0.01$ ) (see Table 6.25). As expected, the first hypothesis was supported, demonstrating that top management support is significantly associated with internal audit effectiveness. This finding is supported by resource-based theory as well. The current study is in line with previous studies on internal auditing (Alzeban & Gwilliam 2014; Cohen & Sayag 2010; Drogalas, Karagiorgos & Arabatzis 2015; Salehi 2016), all of which also identified top management support as one of the most important factors impacting internal audit effectiveness. For instance, Cohen and Sayag (2010) report a positive significant relationship between management support and internal audit effectiveness and conclude that the degree of management support heavily influences internal audit success. Other studies (Ahmad et al. 2009; Tackie, Marfo-Yiadom & Achina 2016; Van Gansberghe 2005) also point out that the scope and effectiveness of IAFs is undermined by insufficient resources. For example, according to Tackie et al. (2016), inadequate resources, a small number of staff, insufficient budget and a poor work

environment reflect the failure of top management to support internal auditing. All these issues reduce the effectiveness of internal audit departments. Consequently, the findings of this study indicated that, in the Saudi public sector, top management support is critical to internal audit effectiveness. In line with resource-based theory, this study also found that top management can support internal audit departments in the Saudi public sector by using organisations' tangible and intangible resources to improve internal audit effectiveness.

### **7.2.2 Organisational Culture**

This study identified organisational culture as the second external factor that, according to resource-based theory, played an important role in internal audit effectiveness. According to resource-based theory, organisational culture is a combination of fundamental assumptions that are learned and shared by members of an organisation. These assumptions address a variety of issues related to external adaptation and internal integration. They are used to teach new employees how to handle issues that could arise in the organisation (Al-Alawi et al. 2007). Barney (1991) supports the idea that organisational culture is a crucial source of an organisations' competitive advantage; specific attributes of organisational culture can boost an organisation's efficiency and effectiveness. Organisational culture can support a high level of effectiveness in the long term and IAFs can significantly enhance organisations' operational performance.

In line with resource-based theory, this study found that organisational culture—a vital intangible asset—significantly impacted internal audit effectiveness. Organisational culture can broaden the scope of internal auditing while dealing with management as well as other departments. Internal audit employees expect organisational culture to support a spirit of teamwork and collaboration; this can help them perform their tasks more effectively and gain the trust of management and other departments, which in turn allows them to access hard data and shared information (CIIA 2014). While personal behaviour can support other employees' confidence in the effectiveness of internal auditing, employee behaviour, including managers' behaviour, can also negatively influence internal audit effectiveness (Dicle & Usluer 2016).

In this study, the interview data suggest some reasons for the lack of a supportive organisational culture in the Saudi public sector. One of these reasons was the lack of

clearly defined roles and tasks for internal audit units. Inadequate support from the GAB also contributed to the challenges faced by IAFs. The interview responses also indicate that internal auditing was negatively impacted by the lack of a clear scope for internal audit work, a lack of trust and a lack of communication with other departments, all of which hampered internal audit effectiveness. In addition, the interview data highlight the unwillingness of internal auditors to discuss internal audit outputs with auditee departments, especially when internal auditors find errors related to organisational culture.

Table 4.6 shows the items that measured the impact of organisational culture on internal audit effectiveness in the Saudi public sector. The questionnaire data suggest that internal audit managers and staff had a moderately positive perception of organisational culture; however, the results also indicate that employees who encouraged collaboration and teamwork were not necessarily rewarded in many organisations. This lack of adequate, effective rewards did not reinforce cooperation among employees, which would have played a role in internal audit effectiveness.

#### *7.2.2.1 Hypothesis on impact of Organisational Culture on Internal Audit*

This study used a multiple regression analysis to measure the association between organisational culture (external independent variable) and the effectiveness of the internal audit (dependent variable). Table 6.23 shows a strong correlation between organisational culture and internal audit effectiveness ( $p < .01$ ). The first multiple regression model shows that organisational culture had a positive beta value and was statistically significant, indicating that organisational culture contributed to internal audit effectiveness ( $\beta = .233$ ,  $t = 4.193$ ,  $p < 0.01$ ) (see Table 6.25). As expected, the second hypothesis was supported, with organisational culture being significantly associated with the effectiveness of internal audit. Resource-based theory supports this finding, which is also in line with those (Al-Twajjry et al. 2003; Alzeban 2015a; Lenz & Hahn 2015). These studies conclude that organisational culture is a crucial factor in the effectiveness of internal auditing. Other studies (Brierley et al. 2001; Onumah & Yao 2012; Roth 2017) have pointed out that the lack of sufficient reward systems adversely influences cooperation among employees and undermines the effectiveness of internal audit departments. Consequently, the findings of this study indicated that the specific attributes thereof could boost the efficiency and effectiveness of internal audit departments and

support a high level of effectiveness in the long-term; moreover, internal audit departments can significantly enhance an organisation's operational performance. Organisational culture is a vital intangible asset that strongly affects the effectiveness of internal audits, which is in accordance with the resource-based theory.

### **7.2.3 Independence of Internal Audit**

This study concluded that the independence of the internal audit—the third external factor in line with resource-based theory—affected internal audit effectiveness. The IIA (2017) defines independence as a state of freedom from conditions that challenge the internal audit team's ability to carry out its tasks and responsibilities in an unbiased manner. The concept of independence demands that internal auditors be in a position where they are able to state their opinions honestly without any fear that this may pose a threat to their position. If such challenges compromise the auditing process, the organisation's competitive advantage may be affected (Asiedu & Deffor 2017; D'Onza et al. 2015; Shohihah, Djamhuri & Purwanti 2018). As noted by Alzeban and Gwilliam (2014), independence is regarded as one of the most important resources underpinning internal audit effectiveness. The study applied resourced-based theory to show that the external factor of independence can also produce a competitive advantage by using the intangible resources of an organisation (Barney 1991). Moreover, it can epitomise the independence of internal audit that provides some of the most significant drivers of competitive advantage for organisations.

In the present study, interview data revealed reasons for the lack of independence of IAFs in the Saudi public sector. One of these reasons was top officials' lack of cooperation with and comprehension of the impact of internal audits. Other departments may also impair the ability of internal audit departments to do their work effectively. The interview data indicate that internal audit performance was adversely influenced by issues related to the appointment and replacement of managers of internal audit and to internal auditors' freedom of enquiry and involvement in non-audit work.

Interviewees stated that the top officials of government organisations can hire and fire the directors of IAFs in the Saudi public sector. Interviewees also indicated that internal auditors struggled to access data and obtain documents; other departments in the organisation often did not understand the work of internal auditing and failed to cooperate

with auditors. This made it impossible for IAFs to access the records and documents they needed to do their work properly. The interview data proposed a variety of reasons for these problems. Internal auditors often had to participate in departmental budgeting decisions, carry out financial and follow-up tasks and cover for absent employees in other departments. Top officials could assign internal auditors to specific positions and require them to not view themselves as internal auditors when carrying out tasks. Covering for absent staff or staff shortages in other departments was a prime example of a factor that may negatively influence internal auditors' independence.

Table 4.6 shows items used in this study to measure the independence of internal audit, which impacted internal audit effectiveness in the Saudi public sector. The findings revealed that managers and staff of internal audit units had, again, moderately positive perceptions of the independence of IAFs, although these perceptions were less positive than might be expected. However, previous studies on internal auditing in Saudi Arabia and other developing countries found even lower perceptions of internal audit independence. Previous studies (Al-Twajjry et al. 2003; Alzeban & Gwilliam 2014; Cohen & Sayag 2010; Salehi 2016; Van der Schyf 2000) have used varying modes of analysis and have reached varied conclusions about perceptions of internal audit independence.

#### *7.2.3.1 Hypothesis on the Independence of Internal Audit*

Multiple regression analysis was used to measure the association between the independence of internal audit (external independent variable) and the effectiveness of internal audit (dependent variable). The correlation coefficient indicated a strong correlation between internal audit independence and internal audit effectiveness ( $p < .01$ ) (see Table 6.23). The multiple regression analysis indicated that the independence of the internal audit was statistically significant ( $p < .01$ ) and had a positive beta value ( $\beta = 0.247$ ) (see Table 6.25). Therefore, the third hypothesis was supported; the independence of internal audit was significantly associated with internal audit effectiveness. Resource-based theory supports this finding as well. The finding is also aligned with prior studies, which showed that internal audit independence plays a significant role in internal audit effectiveness in public sector organisations in developing countries (Cohen & Sayag 2010; Salehi 2016; Shohihah, Djamhuri & Purwanti 2018; Van der Schyf 2000). For instance, Shohihah, Djamhuri and Purwanti (2018) report that, in

the Indonesian public sector, internal audit effectiveness is positively influenced by internal audit independence. When internal auditing is highly independent, auditors can access all departments and work without interruptions from the auditee. Internal auditing functions best when internal audit departments have freedom and independence. Consequently, the findings of this study indicated that, in the Saudi public sector, independence of internal audit was identified as the most important resource affecting internal audit effectiveness. In line with resource-based theory, this study found that independence of internal audit is an intangible asset that is essential for effectiveness and can be unique and built into the organisational structure, thereby making it difficult to imitate and substitute.

### **7.3 Internal Factors Impacting Internal Audit Effectiveness**

This section addresses the following research questions of this study:

- *RQ2*. How do the internal factors such as motivation of internal audit staff, size of the internal audit team, utilisation of IT and competence of internal auditors impact the effectiveness of internal audit in the Saudi public sector?
- *RQ4*. To what extent do the internal factors impact the effectiveness of internal audit in the Saudi public sector?

Internal factors are those within the control of the internal audit department. This study examined a number of internal factors that impact internal audit effectiveness in the Saudi public sector. Using resource-based theory, an analysis of the interview data and questionnaire identified four factors that impact internal audit effectiveness, namely, motivation of internal audit staff, size of the internal audit team, utilisation of IT and competence of internal auditors. In line with resource-based theory, these four internal factors affected internal audit effectiveness in the Saudi public sector.

#### **7.3.1 Motivation of Internal Audit Staff**

Using resource-based theory, the study identified the motivation of internal audit staff as the first internal factor impacting internal audit effectiveness. According to Kuvaas et al. (2017), important sources of motivation include a desire to carry out an activity owing to its tangible benefits and a desire to complete a certain activity because of the pleasure it provides. Tangible incentives and intangible rewards can increase motivation. Internal

auditors' productivity is strongly influenced by motivation (Masood & Lodhi 2015). Kulchmanov and Kaliannan (2014) examined how companies can satisfy employees' needs and consider an adequate salary to be a crucial factor that keeps employees motivated and encourages them to stay in their positions. In line with resource-based theory, human capital and employee motivation are considered resources. In fact, Owuor (2018) argues that human capital resources are the factor that most powerfully impacts organisational success. Fostering internal auditors as tangible and intangible resources can help organisations acquire a significant competitive advantage (Barney 1991; Scott & Christensen 1995). The importance of internal auditor motivation to an organisation's competitive edge is undeniable. Hence, firms must attract well-qualified talent and/or provide incentives for internal auditors to keep auditors motivated to do their work (Al-Twajjry et al. 2003; Alzeban & Gwilliam 2014).

The interview responses show that the lack of motivation was a huge issue for internal audit units in the Saudi public sector. Some interviewees conveyed that internal auditors received no financial motivation but still worked diligently to unearth important financial errors that saved the government huge amounts of money. Because of this lack of financial motivation, many staff members left the public sector for better-paying jobs in the private sector. Internal auditors should receive more compensation than employees in other departments; if this need is not met, good employees may ask to be transferred to other departments, as indicated by some of the respondents. Several interviewees emphasised the lack of extrinsic motivation, such as bonuses, special allowances or overtime in their organisations. The interview data made it clear that this lack of motivation, which was an issue because of poor compensation, no overtime or other benefits, significantly and negatively impacted internal audit effectiveness in the Saudi public sector. Higher pay made the private sector more attractive than the public sector; public sector salaries failed to accommodate modern standards of living in Saudi Arabia. However, Saudi public sector salaries are restricted by law, which significantly affects employee motivation.

Several items (see Table 4.6) were used to measure the motivation of internal audit staff. The findings indicated that internal audit managers and staff had a moderately positive perception of internal auditor motivation; however, most participants indicated that they considered external incentives while performing their duties. This highlighted the

importance of external incentives to encourage internal audit units to perform at a high level.

#### *7.3.1.1 Hypothesis on Motivation of Internal Audit Staff*

Multiple regression analysis was used to measure the association between the motivation of internal audit staff (internal independent variable) and the effectiveness of internal audit (dependent variable). Table 6.24 shows a strong correlation between the motivation of internal audit staff and internal audit effectiveness ( $p < .01$ ). The second multiple regression model also shows that the motivation of internal audit staff had a positive beta value and was statistically significant, indicating that motivation of internal audit staff contributed to internal audit effectiveness ( $\beta = .165$ ,  $t = 3.359$ ,  $p < .01$ ) (see Table 6.26). Therefore, as expected, the fourth hypothesis was supported, indicating that the motivation of internal audit staff was significantly associated with internal audit effectiveness. Resource-based theory supports this conclusion as well. These findings are also aligned with previous studies (Al-Twajry et al. 2003; Alzeban & Sawan 2013; Brierley et al. 2001; Masood & Lodhi 2015) that identified the motivation of internal audit staff as one of the main determinants of internal audit effectiveness. Masood and Lodhi (2015), for instance, suggest that motivation powerfully influences internal audit effectiveness. That study found that offering promotions and paying appropriate salaries to internal auditors improved the effectiveness of internal audit. Consequently, the findings of the study indicated that motivation of internal audit staff significantly affects internal audit effectiveness in the Saudi public sector. A resource-based theory approach suggested that fostering internal audit as a tangible and intangible resource can help organisations acquire significant success; as such, the organisation should provide incentives to their internal auditors to maintain their motivation.

#### **7.3.2 Size of the Internal Audit Team**

The study identified the size of the internal audit team as the second internal factor impacting internal audit effectiveness. According to resource-based theory, having the proper number of staff in internal audit departments influences the effectiveness of an organisation's internal audit department (Nasibah 2015). Some studies have pointed out that the number of internal audit employees should be proportional to the department's tasks and responsibilities (Ahmad et al. 2009; Alzeban & Gwilliam 2014; Salehi 2016).

Arena and Azzone (2009) and Alkebsi and Aziz (2018) suggest that, with more staff on a team, tasks can be rotated among auditors, making the entire auditing process more objective and competitive.

The study uses resource-based theory to explain how internal audit effectiveness could be significantly enhanced by increasing the size of the audit team, since audit teams represent a vital resource for organisations. This theory also demonstrates that the size of the IAF makes a crucial contribution to an organisation's competitive edge through the appropriate use of intangible and tangible resources. Previous studies have also found that the size of the internal audit department has a strong influence on internal audit effectiveness (Alzeban & Gwilliam 2014; Brierley et al. 2001; Chang et al. 2019).

In this study, the interview data indicate a general insufficiency in the number of internal audit employees (both female and male) in Saudi public organisations. These low staff numbers make it harder for internal auditors to do their job. A related issue was that male internal auditors cannot access female campuses (or workplaces) to conduct audits. Most interviewees agreed that these problems could be resolved by hiring more female internal auditors. The interview responses also indicate that the number of internal audit employees in Saudi public organisations was determined by the size and activities of the organisation. The function and work of internal audit units were affected by the number of internal auditors on staff. According to the interviews, internal audit units can perform their tasks efficiently if they have sufficient staff.

In this study, participants were asked to identify the number of internal auditors in their departments (Table 4.6). The findings suggest that internal auditors worked in very small or large departments. Most of the surveyed IAFs (21.4%) employed 17 internal auditors while two (0.7%) had only one internal auditor. Table 6.9 provides more details, indicating that the IAFs of large Saudi public sector organisations may conduct higher quality work than smaller IAFs. This conclusion is supported by Nasibah (2015), who suggests that increasing the number of employees in an internal audit department can improve the quality of the department's work.

#### *7.3.2.1 Hypothesis on the Size of the Internal Audit Team*

Multiple regression analysis was used to measure the association between the size of the internal audit team (internal independent variable) and the effectiveness of the internal

audit (dependent variable). Table 6.24 shows a strong correlation between the size of the internal audit team and internal audit effectiveness ( $p < .01$ ). The second multiple regression model shows that the size of the internal audit team had a positive beta value and was statistically significant, indicating that the size of the internal audit team contributed to internal audit effectiveness ( $\beta = .212$ ,  $t = 4.045$ ,  $p < .01$ ) (see Table 6.26). As expected, the fifth hypothesis was supported, indicating that the size of the internal audit team (in terms of the number of internal audit employees) was significantly associated with internal audit effectiveness. Resource-based theory supports this finding as well. The finding is also aligned with previous studies (Ahmad et al. 2009; Alzeban & Gwilliam 2014; Alzeban & Sawan 2013; Brierley et al. 2001; Salehi 2016), all of which found that the size of the internal audit team profoundly impacted the effectiveness of internal auditing. Brierley et al. (2001), for instance, stress that internal audit departments in the Sudanese public sector are understaffed, which limits their effectiveness. A study of public sector Malaysian organisations reported similar findings; the problem of auditor understaffing was quite obvious and limited the success of internal auditing (Ahmad et al. 2009). In that study, questionnaire responses collected from internal auditors working in the Malaysian public sector proposed that, with supportive top management, internal audit departments should be assigned a sufficient number of staff, along with the other resources they needed, to fulfil their responsibilities effectively. Consistent with resource-based theory, internal audit departments must have adequate staff to effectively perform their duties and enhance the organisation's performance. These findings indicated that the sufficient number of staff in internal audit departments as a vital tangible resource influences the effectiveness of an organisation's internal audit department in the Saudi public sector.

### **7.3.3 Utilisation of Information Technology**

The study identified the utilisation of IT as the third internal factor impacting internal audit effectiveness. According to resource-based theory, the utilisation of IT affects internal audit effectiveness (Alkebsi & Aziz 2018). As Al-Gahtani, Hubona and Wang (2007) and Almasri et al. (2018) note, personal life and the business world are heavily influenced by IT, which is becoming more and more prevalent in society. Modern technological advancements have become necessary in the evolving business environment, which is becoming more complex every day (Curtis et al. 2009). According

to Alkebsi and Aziz (2018), an organisation's success is bound up with the resources available to it and IT and internal auditors are among those essential resources. A resource-based approach also supports the idea that these resources should work together to acquire a competitive advantage and effectively realise organisational goals (Barney 1991). Moreover, when IT systems are used adequately, they can boost respect for the IAF and increase the reliability of internal auditing within an organisation (Abualgasim & Osman 2015; Curtis et al. 2009). According to Smidt et al. (2018), internal auditing is more effective and competitive when IT procedures and IT professionals become involved in the process of auditing. Alkebsi and Aziz (2018) support this, suggesting that IT can facilitate internal auditing by providing basic logic, checking calculations and contributing to other audit functions. As a strategic tool, the impact of IT on internal audit effectiveness is undeniable.

Most of the interviewees complained about the obvious shortage of specialised audit software for internal audit departments. This lack made their jobs more difficult as they had to conduct auditing tasks manually. Some internal audit units used specific software or auditing programs, including Excel, SPSS, Team Meets and GAS. These programs facilitated internal audit work and were especially useful for spotting errors. Some interviewees added that one new auditing program used by many audit departments connected directly to the GAB; however, internal auditors were unable to access all transactions in this program. Some respondents indicated that they had received adequate training on the software through various courses and workshops. The interview data also indicated that IT was considered one of the most essential tools in auditing in the Saudi public sector because it saved time and boosted efficiency. Like many other organisational processes, internal audits have been significantly influenced by the emergence of IT. Overall, the interview responses suggested that government organisations needed to install appropriate audit software because the use of such software would greatly facilitate the work of IAFs. IT is a significant strategic tool that impacts internal audit effectiveness in Saudi organisations in the public sector.

The participants were asked to identify the number of hours per day that they used IT for internal audit activities (Table 4.6). Of the 284 respondents who used IT, 65 (22.9%) stated that they used IT for internal audit activities eight hours a day; 61 (21.5%) used IT seven hours a day and 36 (12.7%) used IT three hours a day. Thirty (10.6%) respondents

spent five hours a day using IT and 30 used IT for six hours a day; 32 (11.3%) used IT for two hours a day. Finally, 24 (8.8%) of the respondents used IT four hours a day while five respondents (1.8%) used IT for one hour a day. The majority of the questionnaire respondents indicated that IT is used to perform internal audit activities in the Saudi public sector. The result of the study also showed that the participants spend a significant amount of time using IT and this could help to increase the efficiency and effectiveness of internal audit procedures and enhance the reputation and prestige of the IAF in the organisation. The interview data revealed that the quality of internal audit activities in Saudi organisations could be improved by using IT and the use of specific software and auditing programs including Excel, SPSS, Team Meets and GAS. These programs could facilitate the work of internal audit staff, especially error discovery. According to Ridley (2008), with the help of IT, transaction processes are now carried out more swiftly and accurately. The swiftness of transaction processing has led to an improved competitive and economic advantage for organisations. Abu-Musa (2008) concludes that with IT, an organisation can reduce costs, improve operational efficiency, execute faster transactions, minimise human error and ultimately achieve a greater competitive advantage.

#### *7.3.3.1 Hypothesis on the Utilisation of Information Technology*

Multiple regression analysis was used to measure the association between the utilisation of IT (internal independent variable) and the effectiveness of the internal audit (dependent variable). Table 6.24 shows a strong correlation between the utilisation of IT and internal audit effectiveness ( $p < .01$ ). The second multiple regression model shows that the utilisation of IT had a positive beta value and was statistically significant, indicating that the utilisation of IT contributed to internal audit effectiveness ( $\beta = .243$ ,  $t = 4.591$ ,  $p < 0.01$ ) (see Table 6.26). As expected, the sixth hypothesis was supported, indicating that the utilisation of IT (in terms of the number of hours IT is used a day for internal audit activities) was significantly associated with the effectiveness of internal auditing. Resource-based theory supports this finding. The finding is also aligned with previous studies (Alkebsi & Aziz 2018; Hermanson, Hill & Ivancevich 2000; Smidt et al. 2018; Weidenmier & Ramamoorti 2006), all of which identified the utilisation of IT as an important determinant of the effectiveness of internal auditing. According to Alkebsi and Aziz (2018), for instance, the effectiveness of internal audit in the public sector of Yemen is significantly impacted by the utilisation of IT. That study found that the amount of time

internal audit employees spent using IT was proportional to internal audit effectiveness. Moreover, the utilisation of IT positively influenced the prestige of auditing tasks within an organisation (Weidenmier & Ramamoorti 2006). Consequently, a resource-based theory approach suggests that using IT as a strategic tool impacts internal audit effectiveness. The results also indicate that an IAF's success is bound up with the resources available to it, and IT is among those essential resources. Resource-based theory supports the idea that IT, as a resource, should be used to increase an organisation's success and quickly realise organisational goals.

### **7.3.4 Competence of Internal Auditors**

The fourth internal factor considered in the current study was the competence of internal auditors. According to resource-based theory, this factor influenced internal audit effectiveness. Competence refers to auditors' ability to diligently perform specific tasks and work in accordance with established standards and principles (Drogalas, Karagiorgos & Arabatzis 2015). Al-Twajjry et al. (2003) and Okodo, Aliu and Yahaya (2019) reinforce this notion by proposing that the recruitment and supervision of internal auditors is crucial in an effective internal audit operation. Cohen and Sayag (2010) and Alzeban and Gwilliam (2014) argue that for auditors to be considered a human resource, they need to be adequately trained. This would give their organisations a competitive edge. According to resource-based theory, human resources are the most important organisational resource; these resources are the combination of all employees' competence, professional or academic qualifications and experience (Kapelko 2005). Hence, internal auditors with higher qualifications and more extensive competencies can significantly affect operational efficiency and organisational reputation.

The interview data indicate that the shortage of competent internal auditors was the internal factor that most strongly impacted internal audit effectiveness in the Saudi public sector. According to the interview respondents, internal auditing was negatively impacted by hiring practices and issues linked to educational qualifications, work experience and continuing development of internal audit employees. The respondents complained about substandard recruitment procedures and poor hiring criteria for internal audit employees employed in the Saudi public sector. Interviewees also stated that most internal audit employees in public organisations had no bachelor's degree or diploma in finance, accounting or auditing and most had no previous experience as internal auditors. Some

manager interviewees noted that internal audit managers were sometimes the only members of the internal audit department with sufficient auditing experience. Interviewees also indicated that their organisations provided little or no training on internal auditing, which adversely affected their work. Overall, the interview data suggest that the competence of internal audit employees should be viewed as a key factor in internal audit effectiveness. Internal auditors must have a high level of competence to perform their duties effectively.

The study used several variables (see Table 4.6) to measure the competence of internal auditors, which in turn, impacted internal audit effectiveness in the Saudi public sector. The majority of questionnaire responses indicated that internal audit employees have good educational qualifications in the Saudi public sector. However, responses from the interviewees painted a different picture. According to the interviewees, there is a significant number of internal audit employees without the appropriate level of education or qualifications. The interviewees pointed out that some internal auditors do not have a bachelor's degree or diploma in finance, accounting or auditing to perform internal audit activities. The interview respondents also complained about substandard recruitment procedures and poor hiring criteria for internal audit employees employed in the Saudi public sector. These could be the reasons for such differences in education qualification in the Saudi public sector led to different answers between the questionnaire responses and interviewees. The findings indicate that internal audit managers and staff had a slightly positive perception of internal auditor competence. However, most participants were unlikely to attend educational seminars on internal auditing. Therefore, Saudi public sector organisations should offer more educational seminars to increase internal auditors' skills, knowledge and other competencies.

#### *7.3.4.1 Hypothesis on the Competence of Internal Auditors*

A multiple regression analysis was conducted to measure the association between internal auditor competence (internal independent variable) and the effectiveness of internal audit (dependent variable). As can be seen in Table 6.24, there was a strong correlation between competence and internal audit effectiveness ( $p < .01$ ). The second multiple regression model shows that internal auditor competence had a positive beta value and was statistically significant, indicating that internal auditor competence was the most important contributing factor impacting internal audit effectiveness ( $\beta = .275$ ,  $t = 5.148$ ,

$p < .01$ ) (see Table 6.26). As expected, the seventh hypothesis was supported, indicating that internal auditor competence was significantly associated with internal audit effectiveness. Resource-based theory supports this finding. This finding is also aligned with previous studies (Al-Twajry, Brierley & Gwilliam 2003; D'Onza et al. 2015; Drogalas, Karagiorgos & Arabatzis 2015; Shohihah, Djamhuri & Purwanti 2018) that identify internal auditor competence as a highly significant factor impacting internal audit effectiveness. For instance, suggest that internal auditor competence is proportional to internal audit effectiveness. They also reveal that crucial competencies for internal audit effectiveness include professional qualifications, professional and proactive employees, good communication between internal audit employees and auditees and staff input on continuous professional development. Consequently, the findings of this study indicated that competence of internal auditors as internal factor was the dominant driver of internal audit effectiveness. A resource-based theory approach suggested that the competence of internal auditors, who are human resources as an intangible asset, influences internal audit effectiveness. The results indicated that human resources are the most important organisational resources. They are the combination of all employees' competence, professional or academic qualifications and experience. Hence, internal auditors with high qualifications and extensive competencies can significantly affect operational efficiency and organisational reputation in the Saudi public sector.

#### **7.4 Revised Model**

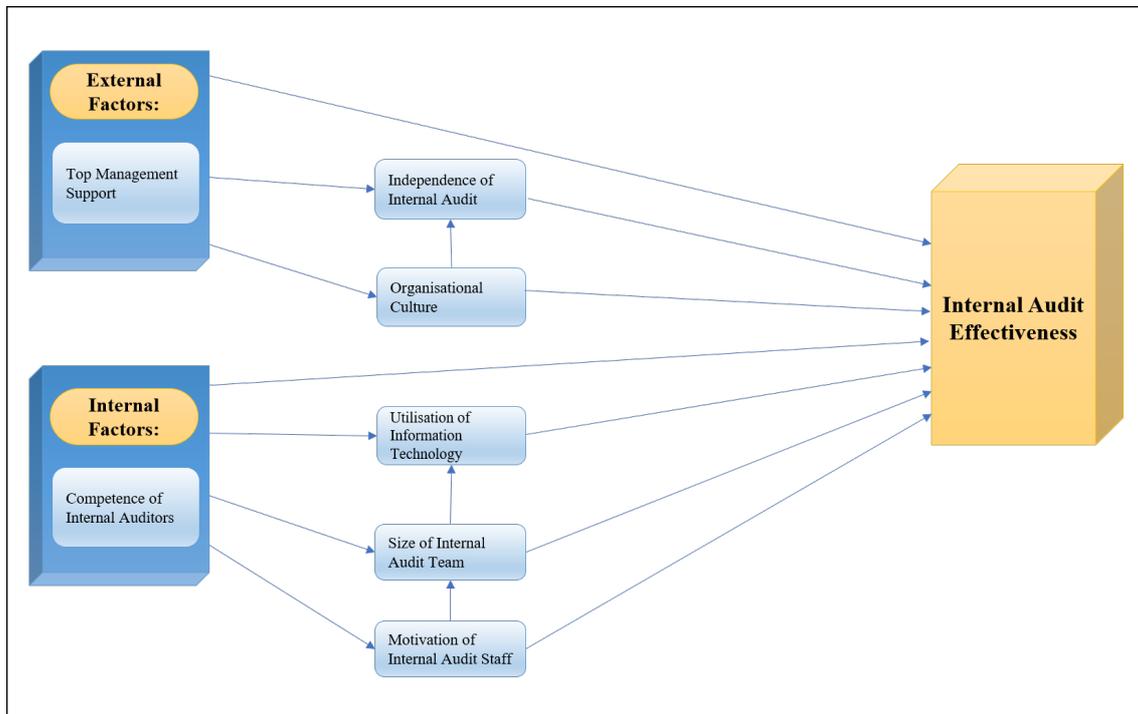
The conceptual research model used in this study (see Figure 3.1) was revised based on new data that emerged about external and internal factors impacting internal audit effectiveness. Figure 7.1 illustrates the revised conceptual model, incorporating the new data.

The interview data unanimously confirm that top management support impacts internal audit effectiveness, along with the other external factors such as independence of internal audit and organisational culture. The top management support was measured using four attributes: adequate resources, available funds, an audit plan, and the implementation of internal audit recommendations. Organisational culture included the ability to identify the scope of internal audit work, trust and communication between the internal audit unit and other departments. Internal audit independence was measured using three attributes: appointment and replacement of managers of internal audit, internal auditors' freedom of

enquiry and internal auditors' involvement in non-audit work. Overall, the interview data demonstrated that top management support directly impacts internal audit effectiveness and the other external factors such as organisational culture and independence of internal audit. A path analysis was conducted later to investigate the interactions and relationships between the external independent variables. The path diagram for the external factors (see Figure 6.7) illustrates the relationships between the four variables (three external independent variables and one dependent variable). The results of this analysis are unequivocal. The analysis indicates that top management support directly impacts internal audit effectiveness and indirectly impacts the other two external independent variables. Moreover, the results suggest a significant correlation between top management support and the other variables at  $p < 0.01$ , providing further evidence that internal audit effectiveness is predicated on top management support. These findings make it clear that strong top management support increases the independence of internal audit departments, eventually leading to a more supportive organisational culture overall.

The interview data suggest that the competence of internal auditors impacts internal audit effectiveness as well as the other internal factors such as utilisation of IT, size of the internal audit team and motivation of internal audit staff. A number of indicators are used to measure competence of internal auditors: staff employment, educational qualifications, work experience and continuing development. The interview data further suggested that all four internal factors impacted each other; internal auditor competence played a fundamental role and influenced internal audit effectiveness as well as the other internal independent variables. A path analysis was used later to investigate the interactions and relationships between the internal independent variables. The path diagram illustrates the relationships between the five variables (four internal independent variables and one independent variable) (see Figure 6.8). The results of this analysis were significant as well. The path analysis indicates that internal auditor competence directly impacts internal audit effectiveness and indirectly impacts the other three internal independent variables. Moreover, the results also suggest a significant correlation between internal auditor competence and the other internal variables at  $p < 0.01$ , providing further evidence that internal audit effectiveness is predicated on the competence of internal auditors. Therefore, if internal auditor competence increases, internal audit department employees will use IT more, internal audit departments will be more likely to have a sufficient

number of staff and those staff members will be likely to have a higher level of motivation.



**Figure 7.1: Revised Conceptual Model Incorporating New Data**

## 7.5 Factors Hindering the Establishment of Internal Audit Units

This section answers the following research question of this study:

- *RQ5*. Why have IAFs been established in some, but not all, public sector organisations in the Saudi public sector?

This section presents data from the 12 semi-structured interviews conducted with external auditors employed by the GAB. These interviews investigated the lack of established internal audit departments in Saudi government organisations. Following the passage of Resolution No. 235 in 2004, which legally established the requirement for internal auditing in the Saudi public sector, other regulations, including Resolution No. 129 in 2007, have been passed to facilitate the establishment of internal audit units. Resolution No. 129 made it mandatory for all organisations that are subject to the GAB to set up an IAF. Alzeban and Sawan (2013) argue that many government organisations have not been able to comply with these regulations.

The interviews revealed that several public organisations operating in Saudi Arabia have not yet established IAFs. The reasons for this, as identified by the interviewees, included a misunderstanding of the role of internal auditing, a lack of support from the GAB, financial issues, a lack of qualified employees, a lack of support from management and a lack of internal audit independence. The interview data explain in part why the role of the IAF is widely misunderstood. Interviewees also provided several reasons for the GAB's lack of support, including problems with cooperation, a lack of interaction and poor communication between the GAB and public organisations. The interviewees further indicated that financial issues, such as budget allocation problems and the failure of the MoF to increase employee salaries, made it difficult for IAFs to recruit well-qualified employees. Most interviewees also confirmed that there were too few qualified employees, which posed yet another challenge. In addition, the interview data explained the perceived absence of management support, for instance, IAF managers' requests to increase the number of employees were often not approved, leaving internal audit departments with insufficient resources and poor-quality working environments. Finally, the interviewees also pointed out some issues that undermined internal auditors' independence, including reporting levels, access to information and expectations that auditors should perform non-audit functions. These findings are aligned with prior studies (Brierley, El- Nafabi & Gwilliam 2001; Mihret, D. G. & Yismaw 2007; Van der Schyf 2000) that identify several barriers to the establishment of IAFs in the public sector.

## **7.6 Conclusion**

This chapter described the results of the analysis of the data collected via interviews and questionnaires. It has also related these findings to the research questions (Chapter 1) and hypotheses (Chapter 3). The hypotheses were supported by the results of the triangulated findings, providing profound insights into the practice and characteristics of internal auditing in the Saudi public sector. The findings on the external factors were in line with similar previous work. For instance, other studies also found that top management support was significant, not only as a standalone variable but also because of its impact on other external independent variables (Alzeban & Gwilliam 2014; Cohen & Sayag 2010; Drogalas, Karagiorgos & Arabatzis 2015; Salehi 2016). Most of the findings on internal factors were in line with previous findings in the same field and similar context (Al-Twajry, Brierley & Gwilliam 2003; D'Onza et al. 2015; Drogalas, Karagiorgos &

Arabatzis 2015; Shohihah, Djamhuri & Purwanti 2018). Similarly, internal auditor competence was significant not only as a standalone variable but also because of its impact on other internal independent variables, making it a major determinant of the effectiveness of internal auditing. The study findings were also aligned with resource-based theory; the Saudi public sector had the capabilities and resources making them heterogeneous and these resources could provide Saudi public sector organisations with a long-term competitive advantage. Many of the necessary capabilities and resources were present at the functional level within organisations, including the IAF as well. The findings also suggested that although Saudi public organisations were legally required to have established, functioning IAFs, a substantial number of them had not achieved this. The next chapter provides an overview and conclusion of the study.

## **Chapter 8: Conclusion and Recommendations**

### **8.1 Introduction**

The overall aim of this study was to investigate the effectiveness of internal audit in the Saudi public sector and to use resource-based theory to examine external and internal factors that impact the effectiveness of internal auditing. To achieve this aim, research objectives were formulated. These were to (i) determine the practices and characteristics that influence internal audit effectiveness in the Saudi public sector; (ii) examine the relationship between internal audit effectiveness and three external factors (top management support, organisational culture and independence of internal audit); (iii) examine the relationship between internal audit effectiveness and four internal factors (motivation of internal audit staff, size of the internal audit team, utilisation of IT and competence of internal auditors); (iv) identify the nature and extent of the impact of external factors on the effectiveness of internal auditing in the Saudi public sector; (v) identify the nature and extent of the impact of internal factors on the effectiveness of internal auditing in the Saudi public sector; and (vi) determine the reasons for the non-implementation of IAFs in some government organisations. To address these objectives, research questions were set for each objective, as indicated in Chapter 1.

This concluding chapter summarises the main findings. It also describes the study's contribution and proposes recommendations to enhance the effectiveness of internal auditing in the Saudi public sector. This is followed by a description of the limitations of the study and recommendations for future research. The thesis closes with general concluding remarks about the study.

### **8.2 Summary of Main Findings**

This section presents the main findings of the study. To examine the external and internal factors impacting internal audit effectiveness, a theoretical framework was used, grounded in resource-based theory. Several factors that hinder the establishment of IAFs in the Saudi public sector were identified. These are presented in three sub-sections below. The first sub-section summarises the main findings related to external factors, the second sub-section describes the main findings related to internal factors while the third

sub-section focuses on the main findings on the factors that hinder the establishment of IAFs in the Saudi public sector.

### **8.2.1 Main Findings on External Factors**

This sub-section describes the main findings on the external factors based on data gathered via interviews and questionnaires. In the context of resource-based theory, the Saudi public sector has enough resources and capabilities to be heterogeneous and these resources play a significant role in government organisations' acquisition and maintenance of competitive advantage. Most of these resources and capabilities are available on the functional level of a government organisation, which also includes IAFs. Based on the data analysis, the primary resources and capabilities that impact the effectiveness of internal audit in the Saudi public sector are summarised.

The first external factor considered in this study is top management support. Some interviewees indicated that internal audit departments in the Saudi public sector suffer from a lack of top management support. According to the interviews, this lack of support is created by a lack of sufficient resources, a lack of funds, a lack of supporting audit plans and a failure to implement internal audit recommendations, all of which significantly hinder the effectiveness of internal audits. Moreover, the interview data reveal that top management support impacts not only internal audit effectiveness but the other external factors as well. The interview data also indicate that there is a direct association between the three external factors of the study. To test the hypothesis on this factor, a multiple regression analysis was conducted to examine the relationship between top management support and internal audit effectiveness. This analysis indicated that top management support is significantly associated with internal audit effectiveness in the Saudi public sector, consistent with prior literature (Alzeban & Gwilliam 2014; Cohen & Sayag 2010; Drogalas, Karagiorgos & Arabatzis 2015; Salehi 2016). Consequently, the findings indicate that, in the Saudi public sector, top management support is critical to internal audit effectiveness. In line with resource-based theory, this study also found that top management support created a competitive advantage by using organisations' tangible and intangible resources to improve internal audit effectiveness.

The second external factor considered in this study is organisational culture. The interview data suggest a number of reasons for the lack of a supportive organisational

culture in the Saudi public sector. One of these is the lack of clearly defined roles and tasks for internal audit units. A lack of support from the GAB also contributes to the challenges faced by IAFs. The interview responses also indicated that internal auditing is negatively influenced by the lack of a clear scope for internal audit work, a lack of trust and a lack of communication with other departments. To test the hypothesis on the second external factor, a multiple regression analysis was conducted to examine the relationship between organisational culture and internal audit effectiveness. This analysis indicated that organisational culture is significantly associated with the effectiveness of internal audit in the Saudi public sector, consistent with prior research (Al-Twajjry et al. 2003; Alzeban 2015a; Lenz & Hahn 2015). Consequently, the findings indicate that organisational culture is key to an organisation's competitive advantage. Organisational culture can support a high level of effectiveness in the long term and internal audit departments can significantly enhance an organisations' operational performance in the Saudi public sector. In line with resource-based theory, this study finds that organisational culture, a vital intangible asset, significantly impacts internal audit effectiveness.

The third external factor considered in this study is the independence of internal audit. The interview data showed that internal audit departments in the Saudi public sector suffer from a lack of independence. According to the interviews, internal audit performance is adversely impacted by issues related to appointment and replacement of managers of internal audit and by internal auditors' involvement in non-audit work and lack of freedom of enquiry. To test the hypothesis on the third external factor, a multiple regression analysis was conducted to examine the relationship between the independence of internal audit and internal audit effectiveness. This analysis revealed that independence is significantly associated with the effectiveness of internal audit in the Saudi public sector, consistent with prior literature (Cohen & Sayag 2010; Salehi 2016; Shohihah, Djamhuri & Purwanti 2018; Van der Schyf 2000). Consequently, independence was identified as the most important resource affecting internal audit effectiveness. In line with resource-based theory, this study found that internal audit independence produced a competitive advantage by using organisations' intangible resources. Moreover, internal audit independence was identified as one of the most significant drivers of competitive advantage for organisations in the Saudi public sector.

### **8.2.2 Main Findings on Internal Factors**

This sub-section describes the main findings on the internal factors based on data gathered via interviews and questionnaires. Consistent with resource-based theory, organisations in the Saudi public sector have the resources and capabilities they need to be heterogeneous. The presence of such resources enables these organisations to sustain a competitive edge in the long run. Most of these resources and capabilities exist at the functional levels of organisations, which also includes IAFs. Based on the data analysis, the most significant internal resources and capabilities that influence the effectiveness of internal audit in the Saudi public sector are summarised.

The first internal factor considered in this study is the motivation of internal audit staff. The interview responses show that lack of motivation is a key issue for internal audit units in the Saudi public sector. Some interviewees noted that internal auditors receive no financial motivation but still work diligently to uncover significant financial errors that save the government large amounts of money. As a result, many staff members have left the public sector in search of better-paying jobs in the private sector. To test the hypothesis on this factor, a multiple regression analysis was conducted to examine the relationship between the motivation of internal audit staff and internal audit effectiveness. This analysis indicated that motivation is significantly associated with internal audit effectiveness in the Saudi public sector, consistent with prior research (Al-Twajiry et al. 2003; Alzeban & Sawan 2013; Brierley et al. 2001; Masood & Lodhi 2015). A resource-based theory approach suggests that fostering internal audit as a tangible and intangible resource can help organisations acquire a significant competitive advantage. Hence, organisations must provide incentives for internal auditors to keep them motivated to do their work in the Saudi public sector.

The second internal factor considered in this study is the size of the internal audit team. The interview data also indicate a general insufficiency in the number of internal audit employees (both male and female) in Saudi public organisations. These small numbers make it harder for staff to do their jobs. To test the hypothesis on the second internal factor, a multiple regression analysis was conducted to examine the relationship between the size of the internal audit team and internal audit effectiveness. This analysis indicated that size (in terms of the number of internal audit employees) is significantly associated with internal audit effectiveness in the Saudi public sector, consistent with the prior

literature (Ahmad et al. 2009; Alzeban & Gwilliam 2014; Alzeban & Sawan 2013; Brierley et al. 2001; Salehi 2016). Consistent with resource-based theory, audit departments must have adequate staff to effectively perform their duties and enhance the organisation's competitive advantage. These findings indicate that the sufficient number of staff in internal audit departments influences the effectiveness of an organisation's internal audit department in the Saudi public sector.

The third internal factor considered in this study is the utilisation of IT. Most of the interviewees complained about the shortage of specialised audit software in IAFs. This lack makes their jobs more difficult as they must conduct auditing tasks manually. To test the hypothesis on the third internal factor, a multiple regression analysis was conducted to examine the relationship between the utilisation of IT and internal audit effectiveness. This analysis indicated that the utilisation of IT (in terms of the number of hours IT is used per day for internal audit activities) is significantly associated with internal audit effectiveness in the Saudi public sector, consistent with prior research (Alkebsi & Aziz 2018; Hermanson, Hill & Ivancevich 2000; Smidt et al. 2018; Weidenmier & Ramamoorti 2006). A resource-based theory approach suggests that using IT as strategic tool impacts internal audit effectiveness. The results also indicate that an IAF's success is bound up with the resources available to it, and IT is among those essential resources. Resource-based theory supports the idea that IT, as a resource, should be used to increase an organisation's competitive advantage and quickly realise organisational goals.

The fourth internal factor considered in this study is the competence of internal auditors. The interview data indicated that the shortage of competent internal auditors is the internal factor that most impacts internal audit effectiveness in the Saudi public sector. According to the interview respondents, internal auditing is negatively impacted by issues related to hiring practices, educational qualifications, work experience and continuing development of internal audit employee. The interview data suggest that competence impacts not only internal audit effectiveness, but also the other internal factors. Moreover, the interview data indicate that there is a direct association between the four internal factors of the study. To test the hypothesis on the fourth internal factor, a multiple regression analysis was conducted to examine the relationship between the competence of internal auditors and internal audit effectiveness. This analysis indicated that competence is significantly associated with internal audit effectiveness in the Saudi public sector, consistent with

prior literature (Al-Twaijry, Brierley & Gwilliam 2003; Alzeban & Gwilliam 2014; D'Onza et al. 2015; Drogalas, Karagiorgos & Arabatzis 2015; Shohihah, Djamhuri & Purwanti 2018). A resource-based theory approach suggests that the competence of internal auditors, who are human resources, influences internal audit effectiveness. The results indicate that human resources are the most important organisational resources. They are the combination of all employees' competence, professional or academic qualifications and experience. Hence, internal auditors with high qualifications and extensive competencies can significantly affect operational efficiency and organisational reputation in the Saudi public sector.

### **8.2.3 Main Findings on Factors Hindering the Establishment of Internal Audit Units**

This sub-section presents the main findings on factors that hinder the establishment of internal audit units based on the interview data. Interviews with 12 external auditors employed by the GAB indicated that several public organisations operating in Saudi Arabia have not yet established internal audit departments. The interviewees identified factors that prevent the establishment of IAFs in public sector organisations. These include a misunderstanding of the role of internal auditing, a lack of support from the GAB, financial issues, a lack of qualified employees, a lack of support from management and a lack of internal audit independence. These findings are aligned with prior studies (Brierley, El- Nafabi & Gwilliam 2001; Mihret, D. G. & Yismaw 2007; Van der Schyf 2000) that identify barriers to the establishment of IAFs in the public sector.

### **8.3 Contribution of the Study**

The study makes a theoretical and practical contribution to knowledge on internal audit effectiveness. From a theoretical perspective, a review of prior literature indicated that there is no specific theory that completely elucidates the effectiveness of IAFs. As noted by Endaya and Hanefah (2013), there is a lack of sufficient attention and an absence of agreement among academics on which theories could be used to establish a theoretical framework for internal audit effectiveness. Therefore, this study adopted the resource-based theory to create a theoretical framework for internal audit effectiveness. The study also extended internal audit research in the context of resource-based theory (Alkebsi & Aziz 2018; Mohammad, Afza & Haslinda 2019; Nasibah 2015) by considering a broad range of external and internal factors impacting internal audit effectiveness. The resource-

based theory was used to elucidate the strategic resources and capabilities that are most significant to internal audit effectiveness in the Saudi public sector.

From a practical perspective, this study provided a comprehensive framework containing the external and internal factors that impact internal audit effectiveness based on the resource-based theory. Currently, there is no holistic framework determining the essential factors that contribute to the effectiveness of internal auditing. Further, few studies on internal auditing effectiveness have been conducted in Saudi Arabia and none of them address these two groups of factors (Al-Mohaimed 2000; Al-Twaijry et al. 2003; Alzeban & Gwilliam 2014; Alzeban & Sawan 2013).

In the Saudi public sector, there is also a need to increase awareness about IAFs. This is because other departments often have negative perceptions of the effectiveness of internal audit, and indeed, of the role played by internal audit. This study suggests that the low effectiveness of internal audit in the Saudi public sector could stem from the external and internal factors. Internal audit effectiveness will be enhanced if these two groups of factors are addressed.

This study contributed to existing literature by addressing the reasons why many Saudi government organisations have not established internal audit departments, thereby failing to comply with Resolution No. 235. Although factors impacting the establishment of IAFs in the public and private sector in Western countries and a few other developing countries have been thoroughly investigated, the factors impacting IAF establishment in the Saudi public sector remain unexplored.

What is more, the findings of this study are useful for other countries, especially developing countries, all Arab countries and the Middle East, in addressing issues of internal audit ineffectiveness. This is particularly pertinent, given that these countries are fraught with challenges relating to the ineffectiveness of IAFs. This study provides recommendations for improving internal audit effectiveness in government and regulatory institutions in the public sector in Saudi Arabia.

## **8.4 Recommendations**

Based on the study findings, this section presents recommendations for improving internal auditing in Saudi public organisations as well as a regulatory framework that

underpins internal auditing. These changes will enable internal audit departments to fulfil their role in the Saudi public sector. The study recommendations are discussed below.

- The findings of this study indicate a dilemma regarding the lack of top management support for internal audit departments. Hence, top management must support audit departments by supplying adequate resources and funds, being involved in audit plans and implementing internal audit recommendations. There is a need to create adequate awareness among top management to enable them to perform their responsibilities of supporting internal auditors effectively. This awareness could be created through training and other forms of communication to top management from the appropriate sources. As awareness increases, top management will be more likely to provide more support to help increase the effectiveness of IAFs. It might also be helpful for the GAB to ensure that internal audit departments are set up in the public sector along with the proper governance or governing bodies.
- The findings of this study indicate that an unsupportive organisational culture should be addressed as well. Components of an unsupportive organisational culture include the inability of members of other departments to identify the scope of internal audit work and a lack of trust and communication between other departments and the IAF. These issues should be addressed to enhance internal audit effectiveness. The steps to achieve this may include establishing a charter that defines the scope of internal audit work, increasing trust among employees and changing the design of government buildings to encourage communication and interaction between internal audit departments and other units.
- The findings of this study indicate that internal audit units of Saudi government organisations are characterised by a lack of independence. This is reflected in the appointment and replacement of managers of internal audit, the lack of freedom of enquiry and involvement in non-audit work. Internal audit departments should be in charge of hiring their own staff, have freedom of enquiry and should not be required to do non-audit work. The managers of internal audit departments should report directly to the head officials of their organisations to ensure their credibility and independence. Internal auditors should also have the freedom to freely state their opinions and accurately describe audit findings in their reports without limitations or bias.

- The findings of this study indicate that internal audit employees lack motivation, which reduces the productivity and effectiveness of IAFs in the Saudi public sector. Public sector organisations should provide financial incentives for internal auditors such as bonuses, promotions, incremental salary increases, financial compensation, overtime and extra pay. Improving the motivation of audit employees will increase productivity and prevent good employees from leaving the organisation for better-paying jobs in the private sector.
- The findings of this study indicate that the number of internal audit workers (both male and female) is insufficient. This makes it difficult for audit staff to do their work effectively. A related issue is that, in Saudi Arabia, male internal auditors are unable to access women's departments to conduct audit work. These problems could be resolved by recruiting new male and female employees to internal audit departments. As an alternative solution, male auditors could be granted access to women's departments, or an appropriate environment could be established in both male and female departments. Authorities also could take a more concerted approach to fill the gap of qualified internal auditors by attracting qualified internal auditors from nearby countries.
- The findings of this study indicate that IT is not used enough in internal auditing in the Saudi public sector and that internal audit departments often lack appropriate IT resources. These are significant issues. Therefore, government organisations should provide advanced auditing software to internal audit departments. Such advanced software should be directly connected to the GAB and internal audit employees should be given access to all transactions in the internal audit department. Internal auditors should also be provided with comprehensive training by universities, Saudi IIA and experts from the private sector. During their service in the public sector, the government should provide incentives for internal auditors to engage in continuing education, certification programs, training, overtime salaries, promotions, and relevant rewards. Management could also provide these incentives in ways that will uphold the objectivity of internal auditors.
- The findings of this study indicate that many internal auditors in the Saudi public sector lack competence. The shortage of competent internal auditors is also reflected in the methods used to hire audit staff, in the lack of continuing

development programs and in employees' lack of educational qualifications and work experience. The Saudi public sector should take action to improve the competence of internal auditors, such as allowing IAFs to set recruitment requirements and hire appropriately qualified staff, providing employees with continuing professional development, giving internal auditors opportunities to improve their educational qualifications and providing employees with inclusive training sessions in universities and private sector auditing firms.

- The findings of this study indicate that the lack of qualified employees is one of the main reasons for the lack of an established IAF in some government organisations. Authorising internal audit departments to appoint qualified employees could solve this issue and these employees could also be provided with extensive training by private sector audit firms.
- The findings of this study indicate that a misunderstanding of the role of the internal audit is another reason why some government organisations have not established internal audit departments. Internal auditing was not mandatory in Saudi Arabia before Cabinet Decree No. 235 was passed in 2004. Since this is a new topic for the entire country, attitudes towards internal auditing are still generally negative. However, this negative view of internal auditing needs to be addressed to all stakeholders. To do this, top officials, managers of other departments and employees should be educated about internal auditing through internal audit conferences and symposia.
- The findings of this study indicate that the MoF has not provided a special budget for the establishment of IAFs in government organisations. The MoF has also not increased salaries for public sector internal auditors. Therefore, the MoF should raise the annual budget for establishing internal audit departments to meet the requirements of Cabinet Decree No. 235. The MoF should also raise internal auditor salaries to enable IAFs to recruit qualified, competent staff.
- The findings of this study indicate that the GAB's lack of support for government organisations has also affected the establishment of internal audit units in the Saudi public sector. The GAB should support and motivate public organisations to establish IAFs. As the body responsible for internal audit regulations, the GAB should also provide guidelines to ensure proper interpretation of internal audit regulations. To improve the relationship and increase communication between the

GAB and public organisations, GAB employees (external auditors) should organise seminars and workshops with internal auditors.

- The findings of this study indicate a lack of audit committees in Saudi government organisations. Audit committees must be established in all government organisations to increase support for internal audit departments while ensuring their independence and effective relationships with the GAB. The audit committees should also monitor the findings of IAFs in Saudi government organisations.
- The findings of this study indicate that most internal auditors in Saudi Arabia do not possess appropriate professional qualifications. Without such qualifications, their presence does not add any significant value to their organisations. Thus, it is crucial for Saudi public sector organisations to recognise the importance of professional certifications in the overall practice of internal audit units. This will help prevent qualified employees from leaving for private firms, which limits the effectiveness of internal auditing. Regulators could step in with regulations that provide incentives for internal auditors to seek higher qualifications, and become members of professional bodies. Organisations could also provide incentives to internal auditors with appropriate certifications and membership in professional organisations that promotes excellence. With proper incentives, the public sector might be able to attract qualified internal auditors from the private sector.
- The findings of this study indicate that GAB reports on government organisations are not publicly published in Saudi Arabia. These reports should be made accessible to the public to indicate how public money is expended and to gain public trust.
- Saudi regulators and public sector organisations should consider the findings of this study and take the necessary measures to establish effective internal audit units and adopt modern practices in this field.

## **8.5 Limitations of the Study**

This study has accomplished its objectives by answering all the research questions. Nonetheless, the study still has its limitations. First, the sample size (290 questionnaires and 36 semi-structured interviews) was not extremely large, so the experiences, perceptions and views described in these may not cover the full range of views about the

effectiveness of internal auditing in Saudi public organisations. It was difficult to select the participants for the study because of the number of government organisations that had not yet established internal audit departments.

Second, some of the participants could not answer all the questions in the questionnaire because of time pressures or possibly through a lack of adequate knowledge about the study. The latter issue was addressed with all participants who contacted the researcher by phone. Although all participants were assured that their responses would remain confidential, some participants chose their words with extreme caution and hesitated to speak their minds freely on some questions.

Third, due to time constraints, the sample of participants in this study was only limited to managers of internal audit units, internal auditors, and external auditors to investigate the effectiveness of internal audits in the Saudi public sector.

## **8.6 Suggestions for Future Research**

This study provides some suggestions for future research.

- To further validate the findings of this study, it would be helpful to replicate this study in various settings. Valuable insights might be gained by conducting the same study in areas where internal auditing is highly developed and in other places such as Saudi Arabia, where it is a relatively new concept.
- Since the sample for the present study was limited, there are additional opportunities to conduct similar studies using different samples. In the future, researchers could conduct similar studies that include a broadened sample, such as governmental organisation ministers, the presidents of independent agency and/or public institutions, the heads of local governments and managers of financial departments.
- Future studies could further investigate external and internal factors impacting internal audit effectiveness and compare the outcomes of this study with similar work in different countries, including other developing countries, Arab countries and the Middle East, to obtain generalisable information about internal audit effectiveness.

- The scope of this study was limited to internal auditing in the public sector. Future studies could expand this by examining the impact of external and internal factors on internal audit effectiveness in the private sector. These findings could then be compared to those of the present study.
- Future studies could establish the connections between the external and internal factors examined here by examining the factors individually, developing a more comprehensive understanding, identifying additional factors and determining the relationships between factors.
- The resource-based theory is rooted in literature on strategic management. Therefore, future studies could apply the same framework in the context of the private sector, where resource-based theory has remarkable strengths.

## **8.7 Concluding Remarks**

The importance of internal auditing is widely recognised by the public and private sectors in Western countries. Although several studies have been conducted on the effectiveness of internal auditing in both developed and developing nations, such studies are rare in the Saudi context. The Saudi government is seeking to establish internal audit departments in all public sector organisations to save public money and prevent corruption. Until recently, internal auditing in Saudi Arabia was mostly limited to accounting and related proprietary transactions. There were no legal requirements for internal auditing in the country until 2004, when Resolution No. 235 was passed. Prior to this, internal auditing was neither established nor thoroughly developed in Saudi Arabia.

This study examined the impact of external and internal factors on internal audit effectiveness in the Saudi public sector, viewed through the lens of the resource-based theory. It investigated the relationships between internal audit effectiveness and three external factors (top management support, organisational culture and independence of internal audit) and four internal factors (motivation of internal audit staff, size of the internal audit team, utilisation of IT and competence of internal auditors). The study also determined the reasons for the lack of implementation of internal audit departments in some government organisations.

This study employed a mixed methods approach to gather data. The data were analysed thematically and statistically; based on this analysis, conclusions were drawn to address

the research aims. The analysis contributes to a better understanding of the nature of internal audits in the Saudi public sector and provides useful insights into the topic. In line with resource-based theory, Saudi public sector organisations should take advantage of effective internal auditing as a valuable resource that can support organisational activities and provide a competitive edge. It is legally mandated for Saudi public organisations to establish internal audit departments; however, some of them have not yet met this requirement. In general, the findings of this study are in line with existing literature and extend previous findings. The results also agree with the arguments put forward by the resource-based theory and the conclusions drawn here have practical utility. Finally, the findings of this study open the doors for further research.

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## **Appendix A: Interview Guidelines in English**

**Subject: Interview guidelines for the managers of internal audit units, internal auditors and external auditors in the Saudi public sector**

Dear Interviewees,

We would like to invite you to be a part of a study that aims to identify and determine external and internal factors that impact the strength of internal audit units in the Saudi public sector. This study is conducted in fulfilment of the requirements of the degree of Doctor of Philosophy at Victoria University. This study has been approved by the Victoria University Human Research Ethics Committee.

You are kindly invited to participate in this study by completing an interview which will take approximately 30 minutes. All your answers will remain confidential. The collected data will be used only for academic purposes. Although we value and appreciate your voluntary participation, you may choose to stop the interview at any time with no responsibility. Thank you for your time and cooperation.

I, [ name of participant] certify that I am at least 18 years old and that I am voluntarily giving my consent to participate in the study to identify and determine external and internal factors that impact the strength of internal audit units in the Saudi public sector. I certify that the objectives of the study, together with any risks and safeguards associated with the procedures listed hereunder to be carried out in the research, have been fully explained to me by Ahmed Almahuzi and that I freely consent to participation involving the procedures below mentioned:

- Interview

I certify that I have had the opportunity to have any questions answered and that I understand that I can withdraw from this study at any time and that this withdrawal will not jeopardise me in any way. I have been informed that the information I provide will be kept confidential.

Signed.....

Date.....

Any queries about your participation in this project may be directed to the researcher:

**Chief Investigator**

Professor Colin Clark

[colin.clark@vu.edu.au](mailto:colin.clark@vu.edu.au)

Phone: +61 39919 1565

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**Student Researcher**

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Phone: +966 59266 9041

If you have any queries or complaints about the way you have been treated, you may contact the Ethics Secretary, Victoria University Human Research Ethics Committee, Office for Research, Victoria University, PO Box 14428, Melbourne, VIC, 8001, email [researchethics@vu.edu.au](mailto:researchethics@vu.edu.au) or phone (03) 9919 4781 or 4461.

***Interview Guideline for Managers of Internal Auditors of Saudi Public Sector***

---

**Interviews Questions**

---

Can you please tell me about the current responsibilities of the internal audit unit engagements in your organisation?

---

Who has the power to employ or remove the director and other internal audit unit members in your organisation?

---

How are internal auditors trained in your organisation? Who provides this training?

---

In your opinion, to what extent does the organisational culture affect the success of the IAF? How?

---

What do you consider when hiring internal auditors?

---

---

How does top management assist your internal audit unit? (i.e. providing appropriate resources, funds, employees, internal audit recommendations, etc.)?

---

What is the relationship between the internal audit units and other units? What are the procedures for auditing other units?

---

Does your department have unrestricted access to required documents and records to carry out fieldwork? If no, then why not?

---

Are there any external factors that impact the internal audit unit effectiveness in your organisation? If yes, then what are they?

---

Are there any internal factors that impact the internal audit unit effectiveness in your organisation? If yes, then what are they?

---

In your opinion, how can the effectiveness of the internal audit unit be improved?

---

### *Interview Guideline for Internal Auditors of Saudi Public Sector*

---

#### **Interview Questions**

---

How many internal auditors do you have in your unit? Do you think the number of internal auditors is enough to carry out their responsibilities effectively? If no, then why not?

---

How do you describe the role of internal audit unit in your organisation?

---

Do you prepare an audit plan? If yes, how do you apply the audit plan in your organisation? If not, why not?

---

How does management assist your internal audit unit? (i.e. providing appropriate resources, funds, employees, internal audit recommendations, etc.)?

---

Do you think the internal audit unit is sufficiently independent? If not, then why not?

---

Do you have sufficient access to required documents and records to carry out fieldwork? If not, then why not?

---

Does the internal audit unit use computer software to carry out audit responsibilities? If not, then why not?

---

In your opinion, to what extent does the organisational culture affect the success of the IAF? How?

---

Do you think the scope of IAF is restricted? If yes, then why?

---

How does your organisation motivate its internal audit employees?

---

Are there any external factors that impact the internal audit unit effectiveness in your organisation? If yes, then what are they?

---

Are there any internal factors that impact the internal audit unit effectiveness in your organisation? If yes, then what are they?

---

In your opinion, how can the effectiveness of the internal audit unit be improved?

---

*Interview Guideline for External Auditors from the GAB*

---

**Interviews Questions**

---

Why do you think the internal audit units has been established in some, but not all government organisations?

---

In your opinion, what are the factors that hinder the establishment of internal audit unit in the public sector?

---

How would you describe the interaction between GAB employees and internal auditors? (The interaction in general, frequency of meetings, reliance on the work of internal auditors, carrying out of external audit recommendations)?

---

Does the GAB provide a yearly report to the public? If yes, then how is it distributed?

---

Do you think the internal audit is sufficiently independent? If not, then what are the reasons?

---

How does the management of public sector organisations assist the IAFs? (i.e. providing appropriate resources, funds, employees, internal audit recommendations etc.)?

---

What changes are required to have effective internal audit units in the Saudi public sector?

---

## Appendix B: Interview Guidelines in Arabic

الموضوع: دليل المقابلة الشخصية لمديري إدارة المراجعة الداخلية وموظفي إدارة المراجعة الداخلية، والمراجعين الخارجيين في القطاع الحكومي في المملكة العربية السعودية.  
أعزائي المشاركين في المقابلة الشخصية:

ندعوكم لأن تصبحوا جزءاً من دراسة تَهْدَفُ إلى تعريف وتحديد العوامل الخارجية والداخلية والتي تؤثر على فعالية إدارات المراجعة الداخلية في الجهات الحكومية في المملكة العربية السعودية. أُجريت هذه الدراسة وفاءً بمتطلبات شهادة الدكتوراة في الفلسفة بجامعة فيكتوريا، وحصلت على موافقة لجنة أخلاقيات البحث بجامعة فيكتوريا.

ندعوكم للمشاركة في هذه الدراسة البحثية عبر إجراء مقابلة شخصية ستستغرق حوالي 30 دقيقة. ستظل كل إجاباتك سرية، وستستخدم البيانات المُجمعة في الأغراض الأكاديمية فقط. بالرغم من أننا نقدر ونحترم مشاركتك التطوعية، يمكنك اختيار إيقاف إجراء المقابلة في أي وقت دون أي عواقب. شكرًا لك على وقتك وتعاونك.

أُقر أنا [-----] بأن عمري 18 عامًا على الأقل، وأنني أوافق بكامل إرادتي على المشاركة في هذه الدراسة لتعريف وتحديد العوامل الخارجية والداخلية والتي تؤثر على قوة وفعالية إدارات المراجعة الداخلية في الجهات الحكومية في المملكة العربية السعودية. وأُقر بأن أهداف الدراسة، وأي مخاطر شُرحت لي بوضوح تام. وأنني أوافق بكامل إرادتي على المشاركة في الدراسة.

أشهد بأنني حصلت على فرصة للإجابة عن كل أسئلتني، وأنني أفهم أن بإمكانني الانسحاب من هذه الدراسة في أي وقت، وأن هذا الانسحاب لن يعرضني للخطر بأي شكل.

أخبرت بأن المعلومات التي سأقدمها ستظل سرية.

توقيع: -----

التاريخ: -----

يمكن توجيه أي استفسار بشأن مشاركتك في هذا المشروع إلى الباحث:

الباحث الطالب

أحمد الماحوزي

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دليل المقابلة الشخصية مع المدير إدارة المراجعة الداخلية في الجهات الحكومية بالمملكة العربية السعودية

#### أسئلة المقابلة

هل يمكنك ان تخبرني عن المسؤوليات الحالية الخاصة بمهام إدارة المراجعة الداخلية في جهتك؟

من يمتلك سلطة تعيين أو إعفاء المدير والموظفين بإدارة المراجعة الداخلية في جهتك؟

كيف يتم تدريب موظفي المراجعة الداخلية في جهتك؟ من يقوم بهذا التدريب؟

في رأيك، الى أي مدى تؤثر ثقافة المنظمة على نجاح وظيفة المراجعة الداخلية؟ وكيف؟

ما هي المتطلبات عند القيام بتوظيف المراجع الداخلي؟

كيف تساعد الإدارة العليا إدارة المراجعة الداخلية (مثال: توفير الموارد الملائمة، التمويل، الموظفين،

توصيات المراجعة الداخلية، إلخ)؟

ما طبيعة العلاقة بين إدارة المراجعة الداخلية والأدارات الأخرى؟ وما هي إجراءات مراجعة الأدارات

الأخرى؟

هل يمكنك الوصول للبيانات اللازمة والمستندات دون قيود وبشكل كافي لتنفيذ العمل الميداني؟ لو كانت

الإجابة بلا، فلماذا؟

هل يوجد أي عوامل خارجية تؤثر على فعالية إدارة المراجعة الداخلية في جهتك؟ اذا كانت الإجابة بنعم،

فماهي؟

هل يوجد أي عوامل داخلية تؤثر على فعالية إدارة المراجعة الداخلية في جهتك؟ اذا كانت الإجابة بنعم،

فماهي؟

في رأيك ، كيف يمكن تحسين فعالية إدارة المراجعة الداخلية في جهتك؟

دليل المقابلة الشخصية مع موظفين إدارة المراجعة الداخلية في في الجهات الحكومية بالمملكة العربية السعودية

أسئلة المقابلة

كم عدد المراجعين الداخليين في إدارتك؟ وهل تعتقد أن عدد المراجعين الداخليين كافيًا لأداء مسؤولياتهم بكفاءة؟ لو كانت الإجابة بلا، فلماذا؟

كيف تصف دور إدارة المراجعة الداخلية في جهتك؟

هل تُعد خطة مراجعة؟ لو كانت الإجابة بنعم، كيف تطبق خطة المراجعة في جهتك؟ إذا لم يكن كذلك، لماذا لا؟

كيف تساعد الإدارة العليا إدارة المراجعة الداخلية (مثال: توفير الموارد الملائمة، التمويل، الموظفين، توصيات المراجعة الداخلية، إلخ)؟

هل تعتقد أن إدارة المراجعة الداخلية مستقلة بما يكفي؟ لو كانت الإجابة بلا، فلماذا؟

هل يمكنك الوصول للبيانات اللازمة والمسندات بدون قيود وبشكل كافي لتنفيذ العمل الميداني؟ لو كانت الإجابة بلا، فلماذا؟

هل تستخدم إدارة المراجعة الداخلية برامج كمبيوتر لتنفيذ مهام المراجعة؟ لو كانت الإجابة بلا، فلماذا؟ ولو كانت الإجابة بنعم، فما هي برامج الكمبيوتر المستخدمة، وماهي المجالات التي تُستخدم فيها تقنيات الكمبيوتر؟ في رأيك، الى أي مدى تؤثر ثقافة المنظمة على نجاح وظيفة المراجعة الداخلية؟ وكيف؟

هل تعتقد أن نطاق وظيفة المراجعة الداخلية مقيداً؟ لو كانت الإجابة بنعم، فلماذا؟

كيف يتم تحفيز موظفين المراجعة الداخلية في جهتك؟

هل يوجد أي عوامل خارجية تؤثر على فعالية إدارة المراجعة الداخلية في جهتك؟ إذا كانت الإجابة بنعم، فماهي؟

هل يوجد أي عوامل داخلية تؤثر على فعالية إدارة المراجعة الداخلية في جهتك؟ إذا كانت الإجابة بنعم، فماهي؟

في رأيك، كيف يمكن تحسين فعالية إدارة المراجعة الداخلية في جهتك؟

دليل المقابلة الشخصية مع المراجعين الخارجيين في ديوان المراقبة العامة

أسئلة المقابلة

لماذا تعتقد أن إدارات المراجعة الداخلية تم تأسيسها في بعض الجهات الحكومية وليس الكل؟

ما هي العوائق التي تواجهها بعض الجهات الحكومية نتيجة عدم تأسيس إدارات المراجعة الداخلية؟

كيف يمكنك وصف التفاعل بين موظفي ديوان المراقبة العامة كمراجعين خارجيين وبين المراجعين الداخليين؟ (التفاعل بشكل عام، الاجتماعات المتكررة، الاعتماد على عمل المراجعين الداخليين، تنفيذ توصيات المراجعة الخارجية).

هل يقدم ديوان المراقبة العامة تقرير سنوي للعامة؟ لو كانت الإجابة بنعم، فكيف يتم نشره؟

هل تعتقد أن المراجعة الداخلية مستقلة بما يكفي؟ لو كانت الإجابة بلا، فما أسباب ذلك؟

كيف تساعد إدارة الجهات الحكومية وظيفة المراجعة الداخلية؟ (مثال: توفير الموارد الملائمة، التمويل، الموظفين، توصيات المراجعة الداخلية، إلخ)؟

---

ما هي التغييرات المطلوب إجراؤها لتحسين فعالية إدارات المراجعة الداخلية في الجهات الحكومية في المملكة العربية السعودية؟

---

## Appendix C: Letter from the Saudi Arabian Cultural Mission

ROYAL EMBASSY OF SAUDI ARABIA  
CULTURAL ATTACHÉ OFFICE  
CANBERRA



سفارة المملكة العربية السعودية  
مكتب الملحقة الثقافية  
كانبرا  
إفادة تسهيل مهمة

1440/10/30 هـ الموافق 2019/07/03 م

### إلى من يهمه الأمر

يفيد مكتب الملحق الثقافي في سفارة المملكة العربية السعودية في أستراليا بأن المبتعث/ احمد سلمان احمد الماحوزي، (رقم الهوية الوطنية ) مبتعث من جامعة الملك خالد لدراسة الدكتوراه في تخصص المراجعة الداخلية في جامعة فكتوريا، علماً بأن عنوان البحث : Factors impacting the effectiveness of internal audit in Saudi Arabian Public Sector : وقد بدأت بعثته بتاريخ الموافق 2017/02/24م، وستنتهي بعثته في تاريخ 2020/01/22م.

ونظراً لحاجة المبتعث للقيام بجمع معلومات متعلقة برسالة الدكتوراه من المملكة ولتوصية المشرف الأكاديمي للمبتعث في الجامعة بذلك؛ نأمل من الجهات ذات العلاقة التكرم بمساعدة المبتعث وتسهيل مهمته في جمع المعلومات المطلوبة لأغراض البحث العلمي دون أدنى مسؤولية على الملحقة الثقافية في أستراليا أو أحد مسؤوليها.

هذه المعلومات صحيحة حسب بيانات نظام الشؤون الدراسية في التاريخ المحدد أعلاه، وبناءً على طلب المبتعث تم منحه هذه الإفادة.

مع خالص شكرنا وتقديرنا،،،

الملحق الثقافي  
بسفارة المملكة العربية السعودية في كانبرا  
د. هشام بن عبدالرحمن خداوردي

الرقم:..... التاريخ:..... للرفقات:..... Attachments..... Date:..... Ref No:.....

Tel: +61 2 62593170 Fax: +61 2 62325978 P.O. BOX 1206, DICKSON, ACT, 2602, AUSTRALIA

www.sacm.org.au

## **Appendix D: Questionnaire Survey in English**

**Subject: A survey of the managers of internal audit units and internal audit employees in the Saudi public sector**

Dear Respondent,

My name is Ahmed Almahuzi and I am interested in studying the effectiveness of IAFs in the Saudi public sector. The study is conducted in fulfilment of the requirements of the degree of Doctor of Philosophy at Victoria University. This study has been approved by the Victoria University Human Research Ethics Committee.

An effective internal audit unit is a crucial management tool because it assists to direct and monitor the internal operational performance and safeguard assets of an organisation appropriately and effectively. The purpose of this study is to identify and determine external and internal factors that impact the strength of internal audit units in the Saudi public sector.

You are kindly invited to participate in this study by completing an online survey which should take less than 20 minutes. You can withdraw from the survey at any time. Your participation is very important for this research. Your truthful answers to the questions below contribute to a greater understanding of IAFs in the Saudi public sector. No names or other personal information will be revealed at any point during the research in accordance with Victoria University Human Research Ethics approval. The results will be presented in the aggregate form and will be used for academic purposes only. If you participate in this study and would like to receive a copy of the results, please contact me.

**Please read the following statement:**

I certify that I am at least 18 years old and that I am voluntarily giving my consent to participate in this study. I certify that the objectives of the study, together with any risks and safeguards associated with the procedures listed hereunder to be carried out in the research are clear to me. I have been informed that the information I provide will be kept confidential.

Please click on the agree button to indicate that:

- You have read and understood the information provided above.
- You give consent to participate in a voluntary manner.

Any queries about your participation in this project may be directed to the researcher:

**Student Researcher**

Ahmed Almahuzi

[ahmed.almahuzi@live.vu.edu.au](mailto:ahmed.almahuzi@live.vu.edu.au)

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**Associate Investigator**

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[highwood166@gmail.com](mailto:highwood166@gmail.com)

Phone: +61 42199 2740

If you have any queries or complaints about the way you have been treated, you may contact the Ethics Secretary, Victoria University Human Research Ethics Committee, Office for Research, Victoria University, PO Box 14428, Melbourne, VIC, 8001, email [Researchethics@vu.edu.au](mailto:Researchethics@vu.edu.au) or phone (03) 9919 4781 or 4461.

**Best regards,**

- Yes, I consent.
- No, I do not consent.

**General Instructions**

Please respond to all questions as accurately as possible. If you feel that none of the answers provided sufficiently express your opinion, please select the response that you consider as the closest match.

## **1- General Information**

**A- What is your gender?**

- Male
- Female

**B- Which of the following age groups are you in?**

- 20 – 29
- 30 – 39
- 40 – 49
- 50 – 59
- above 60

## **2- Participant Background:**

**A- What is your employment status?**

- Manager of internal audit unit
- Internal audit employee

**B- What is your highest academic qualification?**

- High school or less
- Diploma
- Bachelor's degree
- Postgraduate diploma
- Master's degree
- PhD

**C- Do you have any type of the following professional qualifications (you can select more than one answer)?**

- None
- Certified Public Accountant (CPA)
- Certified Internal Auditor (CIA)
- Saudi Certified Public Accountant (Saudi CPA)

**D- How many years of work experience do you have in internal audit?**

- Less than 3 years
- 3 to less than 6 years
- 6 to less than 9 years
- 9 to less than 12 years
- 12 years or more

**E- When was the internal audit unit established in your organisation?**

- less than 5 years ago
- Between 5 and less than 10 years ago
- More than 10 years ago

**3- How many internal auditors do you have in your unit? ... ..**

**4- Do you use IT (i.e. computers, laptops, applications, etc.) for your job-related activities?**

- Yes
- No

**5- How many hours do you use IT in a day for internal audit activities (i.e. planning, evaluation, reporting, etc.)? ... ..**

**External Factors Impacting Internal Audit Effectiveness**

**Top Management Support:**

**6-** Please indicate the extent to which you would strongly disagree (1) or strongly agree (5) with the following statements related to the top management support for your internal audit unit.

Statements	1	2	3	4	5
<b>1- Top management supports the internal audit department in performing its duties and responsibilities.</b>					
<b>2- Top management is involved in the internal audit plan.</b>					
<b>3- The internal audit provides top management with sufficient, reliable and relevant reports about their work and recommendations.</b>					
<b>4- Top management’s responses to internal audit reports are reasonable.</b>					
<b>5- The internal audit department is large enough to successfully carry out its duties and responsibilities.</b>					
<b>6- The internal audit department has an adequate budget to successfully carry out its duties and responsibilities.</b>					

**The Organisational Culture:**

**7-** Please indicate the extent to which you would strongly disagree (1) or strongly agree (5) with the following statements related to the organisational culture.

Statements	1	2	3	4	5
1- I do not hesitate to share my feelings and perceptions with my colleagues.					
2- I believe co-workers should not share personal information.					
3- Certain rules and procedures exist to protect the person sharing his/her knowledge against the harmful intentions of others.					
4- Most of my colleagues are people whom I know well and consider trustworthy.					
5- I have not been previously harmed as a result of sharing knowledge with my co-workers.					
6- I believe most people would not hesitate to take advantage of others' knowledge and experience for personal gain.					
7- There is a considerable level of trust among co-workers in this organisation.					
8- There is a high level of face-to-face interaction among colleagues in the workplace.					
9- Language is not a problem when communicating with other staff.					
10- Teamwork discussion and collaboration enhance communication between colleagues.					
11- This organisation provides various tools and technologies to facilitate knowledge-sharing and exchange (e.g. groupware, email, intranet).					
12- The technological tools available at this organisation for sharing knowledge are effective.					
13- I feel comfortable using the knowledge-sharing technologies available.					
14- Employees are rewarded for sharing their knowledge and experience with their colleagues.					

<b>15- The knowledge-sharing rewards available effectively motivate staff to share their knowledge.</b>					
<b>16- Employees are more likely to be rewarded for teamwork and collaboration than for individual performance.</b>					
<b>17- Workers actively participate in decision-making.</b>					
<b>18- Information flows easily throughout the organisation regardless of employee roles or other boundaries.</b>					
<b>19- Certain tasks require the formation of teams with members from different departments.</b>					

### **The Independence of Internal Audit**

8- Please indicate the extent to which you would strongly disagree (1) or strongly agree (5) with the following statements related to the independence of the internal audit.

<b>Statements</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>1- Internal audit staff are sufficiently independent to perform their professional obligations and duties.</b>					
<b>2- The head of internal audit reports to a level within the organisation that allows the internal audit to fulfil its responsibilities.</b>					
<b>3- The head of internal auditing has direct contact with the president of government organisations.</b>					
<b>4- The internal audit department has direct contact with senior management other than the finance director.</b>					
<b>5- Conflicts of interest rarely occur in the work of internal auditors.</b>					
<b>6- Internal auditors rarely face interference from management while doing their work.</b>					
<b>7- Internal audit employees have free access to all departments and employees in the organisation.</b>					

<b>8- The president of government organisations approves the appointment and replacement of the head of internal auditing.</b>					
<b>9- Internal audit employees are not requested to perform non-audit functions.</b>					

**Internal Factors Impacting Internal Audit Effectiveness**

**Motivation of internal audit staff:**

9- Please indicate the extent to which you would strongly disagree (1) or strongly agree (5) with the following statements related to the motivation of internal audit staff in your organisation.

<b>Statements</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>1- The tasks that I do at work represent a driving power in my job.</b>					
<b>2- The tasks at work are enjoyable.</b>					
<b>3- The job is meaningful.</b>					
<b>4- The job is very exciting.</b>					
<b>5- My job is so interesting that it is motivating in itself.</b>					
<b>6- Sometimes I feel so inspired by my job that I nearly forget everything around me.</b>					
<b>7- If I am supposed to put in extra effort in my job, I need to get extra pay.</b>					
<b>8- It is important for me to have an external incentive to motivate me to do a good job.</b>					
<b>9- External incentives such as bonuses and provisions are essential for how well I perform my job.</b>					
<b>10- If I had been offered better pay, I would have done a better job.</b>					

**Competence of internal auditors:**

10- Please indicate the extent to which you would strongly disagree (1) or strongly agree (5) with the following statements related to competence of internal auditors.

Statements	1	2	3	4	5
1- The professional knowledge of internal auditors is high.					
2- Internal auditors are considered professionals.					
3- Internal auditors are proactive.					
4- There is communication between internal auditors and other departments within the organisation.					
5- Internal auditors attend educational seminars for continuous training.					
6- Internal auditors have adequate education.					

**Internal audit effectiveness:**

11- Please indicate the extent to which you would strongly disagree (1) or strongly agree (5) with the following statements related to the effectiveness of the internal audit team in your organisation.

Statements	1	2	3	4	5
1- Internal audit improves organisational performance.					
2- Internal audit reviews operations and programmes to ascertain whether results are consistent with established objectives and goals.					
3- Internal audit determines the adequacy and effectiveness of the organisation's systems of internal accounting and operating controls.					
4- Internal audit reviews the accuracy and reliability of financial reports.					
5- Internal audit reviews the compliance with policies, plans, procedures and regulations.					

<b>6- Internal audit reviews the compliance with applicable external laws and regulations.</b>					
<b>7- Internal audit reviews the means of safeguarding assets.</b>					
<b>8- Internal audit evaluates and improves the effectiveness of risk management.</b>					
<b>9- Internal audit reviews the economic, effective and efficient use of resources.</b>					
<b>10- Internal audit evaluates the internal control system.</b>					
<b>11- Internal audit makes recommendations for improving the internal control system when appropriate.</b>					
<b>12- Internal audit improves the organisation's productivity.</b>					
<b>13- Internal audit develops appropriate annual audit plans.</b>					
<b>14- Timely action is taken to implement the recommendations of the internal audit report.</b>					
<b>15- Internal audit provides adequate follow-up to ensure that appropriate corrective action is taken and that it is effective.</b>					

**Thank you for your participation**

## Appendix E: Questionnaire Survey in Arabic

الموضوع: إستبانة لمديري وموظفي إدارات المراجعة الداخلية في الجهات الحكومية في المملكة العربية السعودية.  
عزيزي المشارك:

أنا أحمد الماحوزي عضو هيئة التدريس والمبتعث من جامعة الملك خالد لإكمال مرحلة الدكتوراه تخصص المراجعة الداخلية في جامعة فكتوريا في أستراليا، أعمل الان على جمع البيانات عن طريق استقصاء آراء مديري وموظفي إدارات المراجعة الداخلية ومديري الإدارات الأخرى التي تمت مراجعتها في الجهات الحكومية في المملكة العربية السعودية. تعد المراجعة الداخلية الفعالة أداة إدارية مهمة تساعد في توجيه ومراقبة الأداء التشغيلي الداخلي وحماية أصول المنشأة. تهدف هذه الدراسة إلى تعريف وتحديد العوامل الخارجية والداخلية التي تؤثر على فعالية إدارة المراجعة الداخلية في الجهات الحكومية بالمملكة العربية السعودية.

أدعوك للمشاركة في هذه الدراسة من خلال إكمال الاستبانة والتي تستغرق أقل من ٢٠ دقيقة لإكمالها. إن مشاركتك مهمة جداً، وإجاباتك الصادقة على الأسئلة أدناه ستساعدنا في معرفة العوامل التي تؤثر على فعالية المراجعة الداخلية في الجهات الحكومية في المملكة العربية السعودية. لن يتم الكشف عن أي أسماء أو معلومات شخصية في أي مرحلة من مراحل البحث وفقاً لأخلاقيات البحث في جامعة فيكتوريا. ستقدم البيانات في صورة مجمعة، وستستخدم في الأغراض البحثية فقط. في حالة الرغبة للحصول على نسخة من النتائج يُرجى التواصل معي.

يمكن توجيه أي استفسار بشأن مشاركتك في هذا المشروع:

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**إقرار:**

أقر أنني أبلغ من العمر 18 عاماً على الأقل، وأني أوافق بكامل إرادتي على المشاركة في هذا الاستبيان. كما أقر بأن أهداف الدراسة، وأي مخاطر مرتبطة بالإجراءات التي سنطبق بموجبها في هذا البحث، شُرحت بوضوح تام. كما أقر بأنه تم اخطاري بأن المعلومات التي سأقدمها ستظل سرية.

مع أطيب التحيات،

يُرجى وضع علامة  $\surd$  في حالة الموافقة أدناه:

نعم أنا أوافق.

لا أنا لا أوافق.

1- معلومات عامة:

أ- الجنس؟

ذكر

أنثى

ب- الفئة العمرية؟

20 - 29

30 - 39

40 - 49

50 - 59

60 وأكثر

2- معلومات عن المشارك:

أ- ما هو منصبك الوظيفي؟

مدير إدارة المراجعة الداخلية

موظف إدارة المراجعة الداخلية

ب- ما هو أعلى مؤهل دراسي حصلت عليه؟

ثانوية أو أقل

دبلوم

بكالوريوس

دبلوم عالي

ماجستير

دكتوراه

ت - هل يوجد لديك أي نوع من الشهادات المهنية التالية (يمكنك اختيار أكثر من إجابة)؟

- لا يوجد
- محاسب قانوني معتمد (CPA)
- مراجع داخلي معتمد (CIA)
- الزمالة المحاسبية السعودية (SOCPA)

ث - ما هو عدد سنوات الخبرة لديك في مجال المراجعة الداخلية؟

- أقل من 3 سنوات
- 3 إلى أقل من 6 سنوات
- 6 إلى أقل من 9 سنوات
- 9 إلى أقل من 12 سنوات
- 12 أو أكثر

ح - متى تأسست ادارة المراجعة الداخلية في الجهة التي تتبع لها؟

- أقل من 5 سنوات
- من 5 إلى 10 سنوات
- 10 سنوات أو أكثر

3 - ما هو عدد الموظفين المراجعين الداخليين في الإدارة لديكم؟-----

4- هل تستخدم تكنولوجيا المعلومات كأجهزة الكمبيوتر و الآتوب و البرامج وغيرها للأنشطة المتعلقة بوظيفتك؟

- نعم
- لا

5- ما هو عدد الساعات التي تستخدم فيها تكنولوجيا المعلومات للأنشطة المتعلقة بوظيفتك في اليوم؟-----

العوامل الخارجية التي تؤثر على فعالية المراجعة الداخلية:

دعم الإدارة العليا:

6- فضلاً حدد الى أي مدى ترفض بشدة (1) أو توافق بشدة (5) مع العبارات التالية المرتبطة بدعم الإدارة العليا لإدارة المراجعة الداخلية:

العبارات	1	2	3	4	5
1- تقوم الإدارة العليا بدعم إدارة المراجعة الداخلية لأداء واجباتها ومسؤولياتها.					
2- تشارك الإدارة العليا في وضع خطط إدارة المراجعة الداخلية.					
3- تتوفر إدارة المراجعة الداخلية للإدارة العليا تقارير كافية وموثوقة وذات صلة بالعمل الذي تم إنجازه والتوصيات المعمولة.					
4- تعطي الإدارة العليا رداً مناسباً بخصوص تقارير المراجعة الداخلية.					
5- يوجد للإدارة المراجعة الداخلية عدد كاف من الموظفين للقيام بواجباتهم ومسؤولياتهم بنجاح.					
6- يوجد للإدارة المراجعة الداخلية ميزانية كافية لتنفيذ واجباتها ومسؤولياتها بنجاح.					

#### ثقافة المنظمة:

7- فضلاً حدد الى أي مدى ترفض بشدة (1) أو توافق بشدة (5) مع العبارات التالية المرتبطة بثقافة المنظمة لإدارة المراجعة الداخلية:

العبارات	1	2	3	4	5
1- لا أتردد بان أشارك مشاعري وتصوراتي مع زملاء العمل.					
2- أعتقد انه لايجب على زملاء العمل مشاركة المعلومات الشخصية.					
3- يوجد قواعد و إجراءات تحمي الشخص عند تقديم معلومات عن نوايا الآخرين السينة.					
4- أكثر زملائي هم أشخاص أعرفهم جيداً وبالتالي هم يعتبرون جديرين بالثقة.					
5- لم أتعرض سابقاً للأذى نتيجة مشاركة معلوماتي مع زملائي في العمل.					
6- أعتقد أن الناس لن يترددوا في استغلال معارف وخبرات الآخرين لتحقيق مكاسب شخصية.					
7- يوجد مستوى كبير من الثقة بين زملاء العمل في هذه الجهة.					
8- يوجد مستوى عالٍ من التواصل وجهاً لوجه بين الزملاء في مكان العمل.					
9- تعتبر اللغة ليست مشكلة عند التواصل مع زملاء العمل.					
10- التعاون والمناقشة بين فرق العمل يساهم بتعزيز التواصل بين زملاء العمل.					

					11- توفر الجهة أدوات وتقنيات متنوعة من أجل تسهيل تبادل المعرفة (مثل البرامج الجماعية والبريد الإلكتروني والإنترنت).
					12- تعتبر الأدوات التكنولوجية المتوفرة بالجهة فعالة لتبادل المعرفة.
					13- أشعر بارتياح عند استخدام تقنيات تبادل المعرفة المتاحة في الجهة.
					14- تتم مكافأة الموظفين لمشاركة معارفهم وخبراتهم مع زملاء العمل.
					15- تعتبر المكافآت المتاحة لتبادل المعرفة فعالة في تحفيز الموظفين لنشر معارفهم.
					16- من المرجح أن يتم مكافأة الموظفين على العمل الجماعي والتعاون بدلاً من مجرد العمل الفردي.
					17- يشارك الموظفون بنشاط في عملية صنع القرار.
					18- تتدفق المعلومات بسهولة بين الموظفين بغض النظر عن مناصبهم أو الحدود الأخرى.
					19- بعض المهام تتطلب تشكيل فرق عمل مكونة من أعضاء من مختلف الإدارات لإنجازها.

#### استقلالية المراجعة الداخلية:

8- فضلاً حدد إلى أي مدى ترفض بشدة (1) أو توافق بشدة (5) مع العبارات التالية المرتبطة بالاستقلالية لإدارة المراجعة الداخلية:

العبارات	1	2	3	4	5
1- يتمتع موظفون إدارة المراجعة الداخلية بالاستقلالية الكافية لتنفيذ واجباتهم المهنية بنجاح.					
2- يقوم مدير إدارة المراجعة الداخلية بتقديم التقارير إلى مستوى إداري مناسب داخل الجهة مما يسمح لإدارة المراجعة الداخلية بالوفاء بمسؤولياتها.					
3- يقوم مدير إدارة المراجعة الداخلية بالاتصال المباشر مع مدير الجهة في القطاع الحكومي.					
4- يقوم مدير إدارة المراجعة الداخلية بالاتصال المباشر مع الإدارة العليا، بخلاف ذلك الاتصال الذي يكون مع المدير المالي.					
5- نادراً ما يكون هنالك تعارض في المصالح أثناء قيام موظفين إدارة المراجعة الداخلية بمهامهم.					
6- نادراً ما يواجه موظفون إدارة المراجعة الداخلية تدخلاً من الإدارة أثناء قيامهم بمهامهم.					

					7- يتمتع موظفين إدارة المراجعة الداخلية بحرية الوصول الى جميع الإدارات والموظفين في الجهة للحصول على المعلومات التي يحتاجونها في مهامهم.
					8- يقوم مدير الجهة الحكومية بتعيين وإعفاء مدير إدارة المراجعة الداخلية.
					9- لا يتطلب من موظفين إدارة المراجعة الداخلية القيام بتنفيذ وظائف أخرى غير وظائف المراجعة الداخلية.

العوامل الداخلية المؤثرة على فعالية المراجعة الداخلية.

حافز موظفين إدارة المراجعة الداخلية:

9- فضلاً حدد الى أي مدى ترفض بشدة (1) أو توافق بشدة (5) مع العبارات التالية المرتبطة بحافز موظفي المراجعة الداخلية في جهتك التي تتبع لها:

العبارات	1	2	3	4	5
1- المهام التي أقوم بها في العمل تمثل قوة دافعة في وظيفتي.					
2- المهام في العمل ممتعة.					
3- تعتبر وظيفة المراجعة الداخلية ذات مغزى.					
4- تعتبر وظيفة المراجعة الداخلية مثيرة للاهتمام.					
5- تعتبر وظيفة المراجعة الداخلية مثيرة للاهتمام لدرجة أنها تمثل حافز بحد ذاته.					
6- غالباً، أكون مندمج في وظيفتي لدرجة أنسى كل شيء آخر من حولي.					
7- إذا كان من المفترض أن أقوم بجهد إضافي في عملي، فأنا بحاجة للحصول على رواتب إضافية.					
8- من المهم بالنسبة لي أن يكون لدي حافز خارجي للقيام بالعمل بشكل جيد.					
9- تعتبر الحوافز الخارجية مثل العلاوات والمكافآت مهمة حيث تؤثر على أداء عملي.					
10- لو حصلت على راتب أفضل، لكنت قمت بعمل أفضل.					

كفاءة المراجعين الداخليين:

10- فضلاً حدد الى أي مدى ترفض بشدة (1) أو توافق بشدة (5) مع العبارات التالية المرتبطة بكفاءة المراجعين الداخليين في جهتك التي تتبع لها:

5	4	3	2	1	العبارات
					1- تعتبر المعرفة المهنية لدى المراجعين الداخليين عالية.
					2- يعتبر المراجعين الداخليين محترفين في الجهة.
					3- يعتبر المراجعين الداخليين مبادرين في الجهة.
					4- هناك اتصال بين المراجعين الداخليين والإدارات الأخرى داخل المنظمة.
					5- يحضر المراجعين الداخليين الندوات التعليمية للتدريب المستمر.
					6- يوجد لدى المراجعين الداخليين مؤهلات تعليمية مناسبة.

#### فعالية المراجعة الداخلية:

11- فضلاً حدد الى أي مدى ترفض بشدة (1) أو توافق بشدة (5) مع العبارات التالية المرتبطة بفعالية المراجعة الداخلية في جهتك:

5	4	3	2	1	العبارات
					1- تقوم إدارة المراجعة الداخلية بتحسين الأداء التنظيمي للجهة.
					2- تقوم إدارة المراجعة الداخلية بمراجعة العمليات والبرامج للتأكد مما إذا كانت تتفق مع الأهداف والغايات المحددة.
					3- تحدد إدارة المراجعة الداخلية مدى كفاية وفعالية أنظمة المحاسبة الداخلية والرقابة على العمليات.
					4- تقوم إدارة المراجعة الداخلية بمراجعة وفحص السجلات والتقارير المالية للتأكد من موثوقيتهم.
					5- تقوم إدارة المراجعة الداخلية بمراجعة مدى الالتزام بالسياسات والخطط والإجراءات واللوائح الجهة.
					6- تقوم إدارة المراجعة الداخلية بمراجعة مدى الامتثال للقوانين واللوائح الصادرة من جهات خارجية وذات علاقة بالجهة.
					7- تقوم إدارة المراجعة الداخلية بمراجعة الطرق والوسائل للحفاظ على أصول الجهة.
					8- تقوم إدارة المراجعة الداخلية بتقييم وتحسين فعالية إدارة المخاطر.

					9- تقوم إدارة المراجعة الداخلية بمراجعة الاستخدام الأمثل والاقتصادي والفعال والكفاء للموارد.
					10- تُقيم إدارة المراجعة الداخلية نظام الرقابة الداخلية للجهة.
					11- تقوم إدارة المراجعة الداخلية بتقديم التوصيات لتحسين وتطوير نظام الرقابة الداخلية.
					12- تقوم إدارة المراجعة الداخلية بتقديم المساعدة لتحسين إنتاجية الجهة.
					13- تقوم إدارة المراجعة الداخلية بوضع خطط المراجعة السنوية المناسبة.
					14- يتم القيام بالعمل في الوقت المناسب لتنفيذ التوصيات المقدمة في تقرير إدارة المراجعة الداخلية.
					15- تقوم إدارة المراجعة الداخلية بمتابعة كافية لضمان أنه تم عمل إجراءات تصحيحية وفعالة.

شكرًا جزيلاً لمشاركتك

## Appendix F: Reliability Results

Reliability Analysis Cronbach's alpha (Pilot Study)

Top Management Support

### Reliability Statistics

Cronbach's alpha	N of Items
.896	6

### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's alpha if Item Deleted
1- Top management supports the internal audit department in performing its duties and responsibilities.	19.67	25.610	.824	.862
2- Top management is involved in the internal audit plan.	19.62	27.471	.746	.876
3- Internal audit provides top management with sufficient, reliable and relevant reports about their work and recommendations.	19.47	31.076	.520	.905
4- Top management's responses to internal audit reports are reasonable.	19.32	26.584	.753	.873
5- The internal audit department is large enough to successfully carry out its duties and responsibilities.	19.22	26.281	.665	.888
6- The internal audit department has an adequate budget to successfully carry out its duties and responsibilities.	19.55	21.690	.865	.856

Organisational Culture:

### Reliability Statistics

Cronbach's alpha	N of Items
.965	19

### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's alpha if Item Deleted
1- I do not hesitate to share my feelings and perceptions with my colleagues.	67.38	295.676	.892	.961
2- I believe co-workers should not share personal information.	67.23	297.307	.892	.961
3- Certain rules and procedures exist to protect the person sharing his/her knowledge against the harmful intentions of others.	66.58	293.840	.850	.961
4- Most of my colleagues are people whom I know well and consider trustworthy.	66.53	293.846	.882	.961
5- I have not been previously harmed as a result of sharing my knowledge with my co-workers.	66.58	291.789	.884	.961
6- I believe people will not hesitate to take advantage of others' knowledge and experience for personal gains.	67.03	300.948	.863	.962
7- There is a considerable level of trust among co-workers in this organisation.	67.20	303.138	.789	.962
8- There is a high level of face-to-face interaction among colleagues in the workplace.	66.85	310.797	.572	.965

9- Language is not a problem when communicating with other staff.	67.53	324.922	.101	.975
10- Teamwork discussion and collaboration enhance communication between colleagues.	67.38	295.676	.892	.961
11- The organisation provides various tools and technologies to facilitate knowledge-sharing and exchange (e.g. groupware, email, intranet).	67.38	295.676	.892	.961
12- The technological tools available at this organisation for sharing knowledge are effective.	67.23	297.307	.892	.961
13- I feel comfortable using the knowledge-sharing technologies available.	66.58	293.840	.850	.961
14- Employees are rewarded for sharing their knowledge and experience with their colleagues.	66.53	293.846	.882	.961
15- The knowledge-sharing rewards effectively motivate staff to share their knowledge.	66.58	291.789	.884	.961
16- Employees are more likely to be rewarded for teamwork and collaboration than for individual performance.	67.03	300.948	.863	.962
17- Workers actively participate in decision-making.	67.20	303.138	.789	.962
18- Information flows easily throughout the organisation regardless of employee roles or other boundaries.	66.85	310.797	.572	.965
19- Certain tasks require the formation of teams with members from different departments.	67.00	314.308	.450	.966

The Independence of the Internal Audit:

**Reliability Statistics**

Cronbach's alpha	N of Items
.944	9

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's alpha if Item Deleted
1- Internal audit employees are sufficiently independent to perform their professional obligations and duties.	31.50	64.000	.822	.936
2- The head of internal audit reports to a level within the organisation that allows the internal audit to fulfil its responsibilities.	31.32	65.661	.841	.935
3- The head of internal audit has direct contact with the president of government organisations.	31.07	64.430	.822	.936
4- The internal audit department has direct contact with senior management other than the finance director.	31.07	64.533	.832	.935
5- Conflict of interest rarely occur in the work of internal auditors.	31.25	67.218	.691	.943
6- Internal auditors rarely face interference by management while doing their work.	31.48	65.743	.824	.936
7- Internal audit employees have free access to all departments and employees in the organisation.	31.50	65.128	.857	.934
8- The president for government organisations approves the appointment and replacement of the head of internal auditing.	30.98	69.666	.646	.945
9- Internal audit employees are not requested to perform non-audit functions.	31.23	67.358	.719	.941

Motivation of Internal audit staff:

### Reliability Statistics

Cronbach's alpha	N of Items
.939	10

### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's alpha if Item Deleted
1- The tasks that I do at work represent a driving power in my job.	35.05	88.562	.895	.925
2- The tasks at work are enjoyable.	35.05	88.562	.895	.925
3- The job is meaningful.	34.90	89.887	.906	.925
4- The job is very exciting.	34.63	93.728	.799	.930
5- The job is so interesting that it is a motivation in itself.	34.57	93.994	.818	.930
6- Sometimes I feel so inspired by my job that I nearly forget everything around me.	34.75	92.910	.816	.929
7- If I am supposed to put in extra effort in my job, I need to get extra pay.	34.73	93.538	.856	.928
8- It is important for me to have an external incentive to motive me to do a good job.	35.03	96.435	.733	.933
9- External incentives such as bonuses and provisions are essential for how well I perform my job.	34.55	97.331	.677	.936
10- If I had been offered better pay, I would have done a better job.	34.60	105.836	.235	.959

Competence of Internal Auditors:

**Reliability Statistics**

Cronbach's alpha	N of Items
.883	6

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's alpha if Item Deleted
1- The professional knowledge of internal auditors is high.	18.27	23.640	.747	.854
2- Internal auditors are considered professionals.	18.25	23.833	.824	.843
3- Internal auditors are proactive.	18.15	25.259	.686	.865
4- There is communication between internal auditors and other departments within the organisation.	18.52	25.333	.621	.875
5- Internal auditors attend educational seminars for continuous training.	18.88	23.497	.674	.868
6- Internal auditors have adequate education.	18.30	25.241	.636	.873

Internal Audit Effectiveness:

### Reliability Statistics

Cronbach's alpha	N of Items
.979	15

### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's alpha if Item Deleted
1- Internal audit improves organisational performance.	57.13	219.599	.845	.978
2- Internal audit reviews operations and programmers to ascertain whether results are consistent with established objectives and goals.	56.90	221.221	.876	.978
3- Internal audit determines the adequacy and effectiveness of the organisation's systems of internal accounting and operating controls.	56.98	218.640	.918	.977
4- Internal audit reviews the accuracy and reliability of financial reports.	56.98	217.717	.875	.978
5- Internal audit reviews the compliance with policies, plans, procedures and regulations.	56.88	221.702	.876	.978
6- Internal audit reviews the compliance with applicable external laws and regulations.	56.85	225.669	.823	.979
7- Internal audit reviews the means of safeguarding assets.	57.00	220.974	.870	.978
8- Internal audit evaluates and improves the effectiveness of risk management.	57.08	217.558	.843	.978
9- Internal audit reviews the economic, effective and efficient use of resources.	57.13	215.856	.891	.978
10- Internal audit evaluates the internal control system.	57.25	220.038	.784	.979

11- Internal audit makes recommendations for improving the internal control system when appropriate.	57.25	216.603	.867	.978
12- Internal audit improves the organisation's productivity.	57.03	216.230	.899	.977
13- Internal audit develops appropriate annual audit plans.	56.93	216.738	.910	.977
14- Timely action is taken to implement the recommendations of the internal audit report.	57.28	217.640	.862	.978
15- Internal audit provides adequate follow-up to ensure that appropriate corrective action is taken and that it is effective.	57.13	218.830	.836	.978

## Appendix G: Results of Normality, Correlation and Regression Analyses

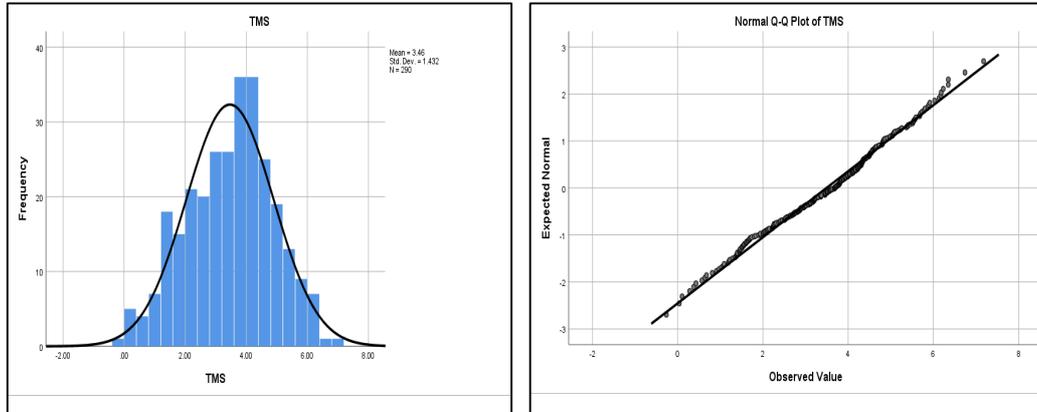


Figure G1: Histogram and Normal Q-Q Plots for Top Management Support

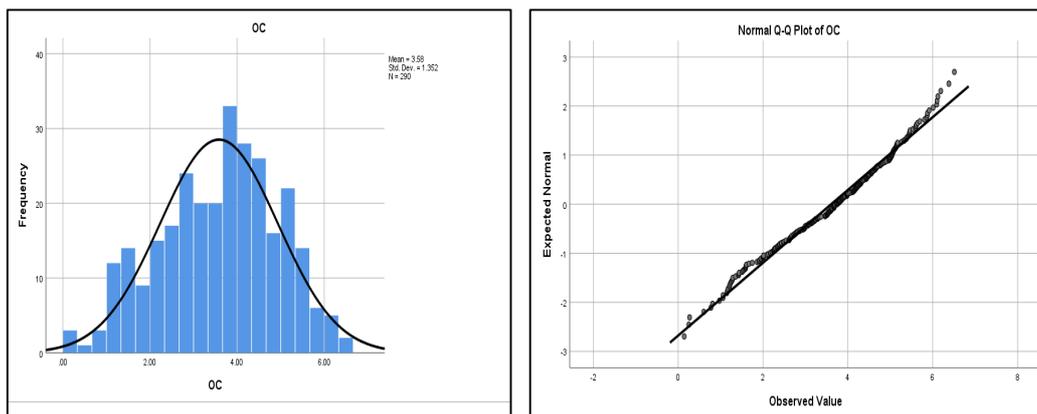
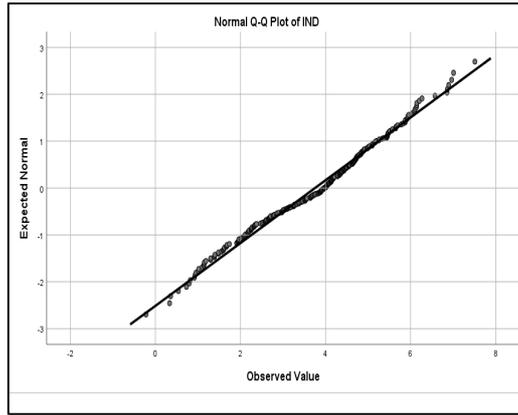
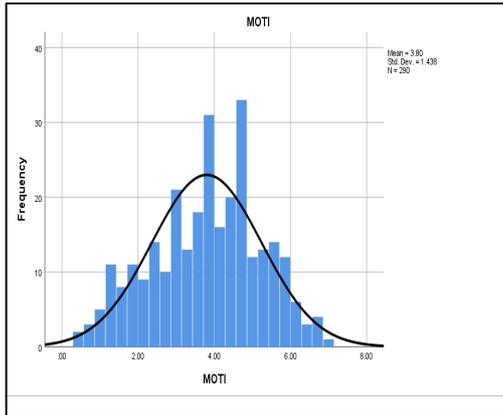
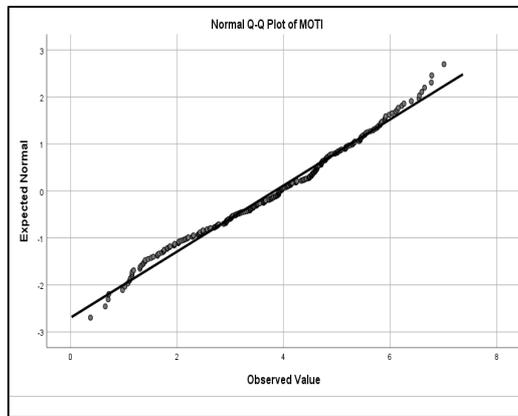
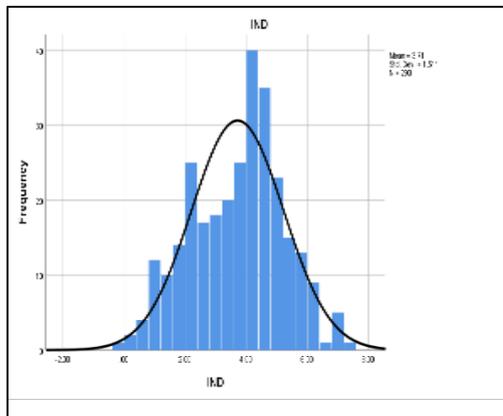


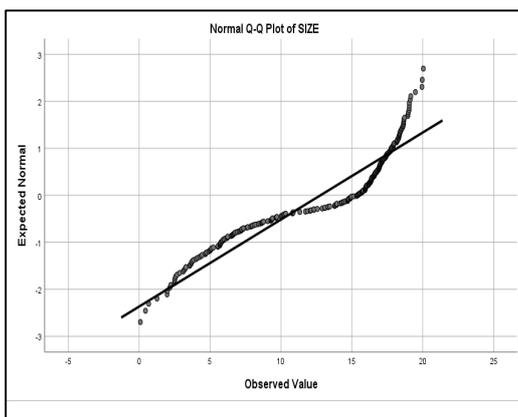
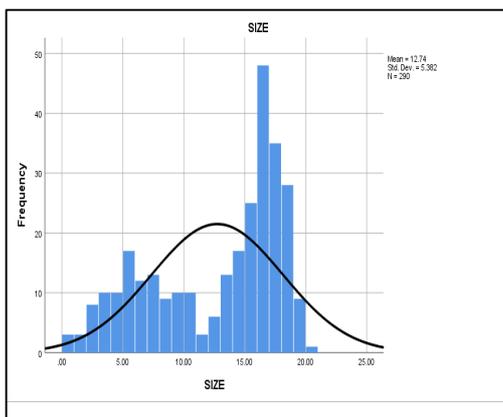
Figure G2: Histogram and Normal Q-Q Plots for Organisational Culture



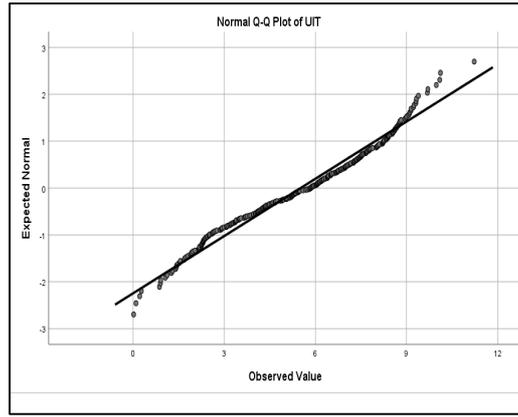
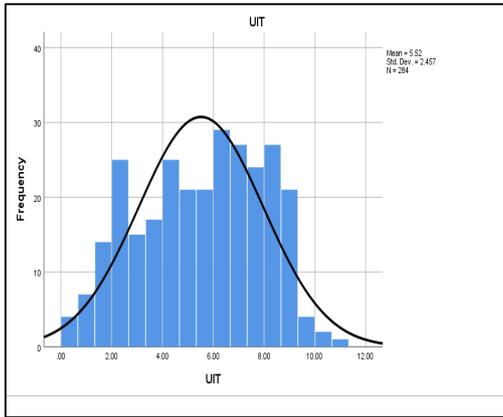
**Figure G3: Histogram and Normal Q-Q Plots for Internal Audit Independence**



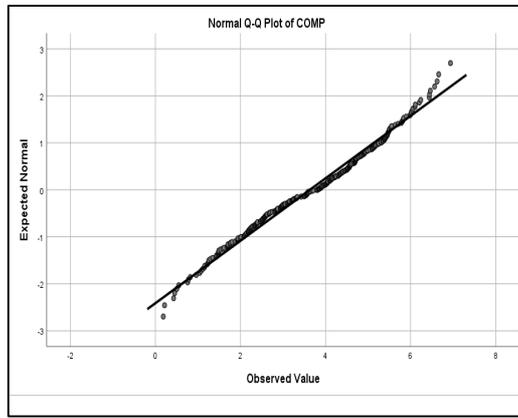
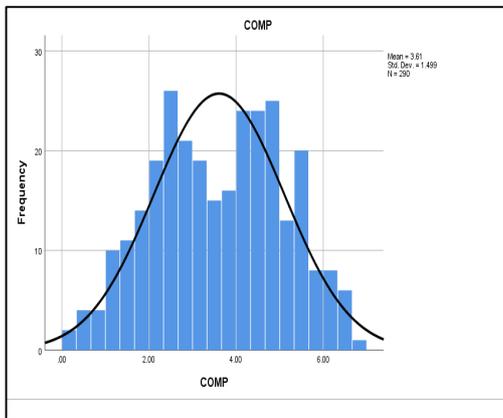
**Figure G4: Histogram and Normal Q-Q Plots for Motivation of Internal audit employees**



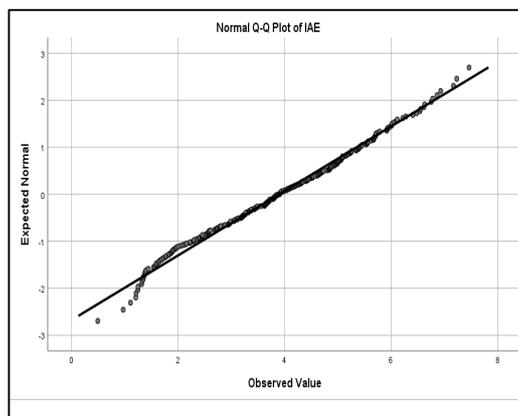
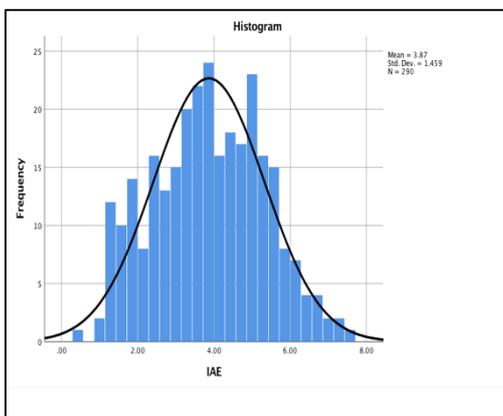
**Figure G5: Histogram and Normal Q-Q Plots for Size of the Internal Audit Team**



**Figure G6: Histogram and Normal Q-Q Plots for Utilisation of Information Technology**



**Figure G7: Histogram and Normal Q-Q Plots for Competence of Internal Auditors**

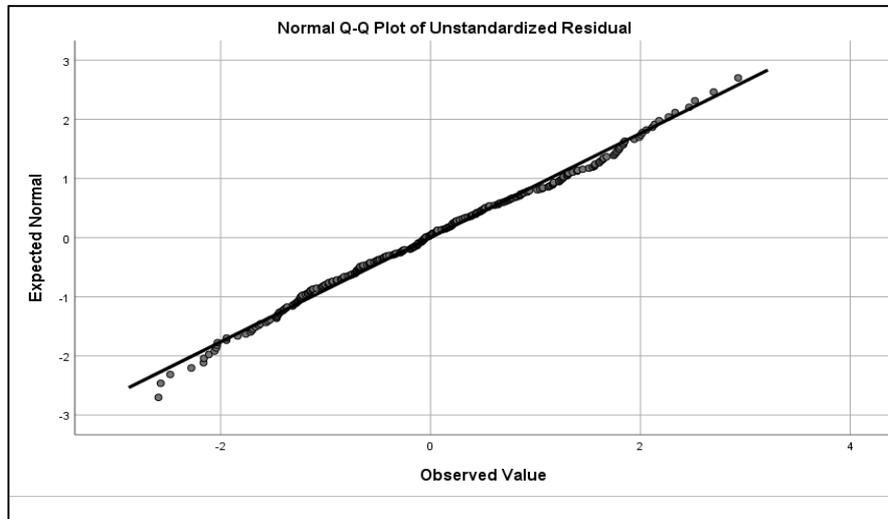


**Figure G8: Histogram and Normal Q-Q Plots for Internal Audit Effectiveness**

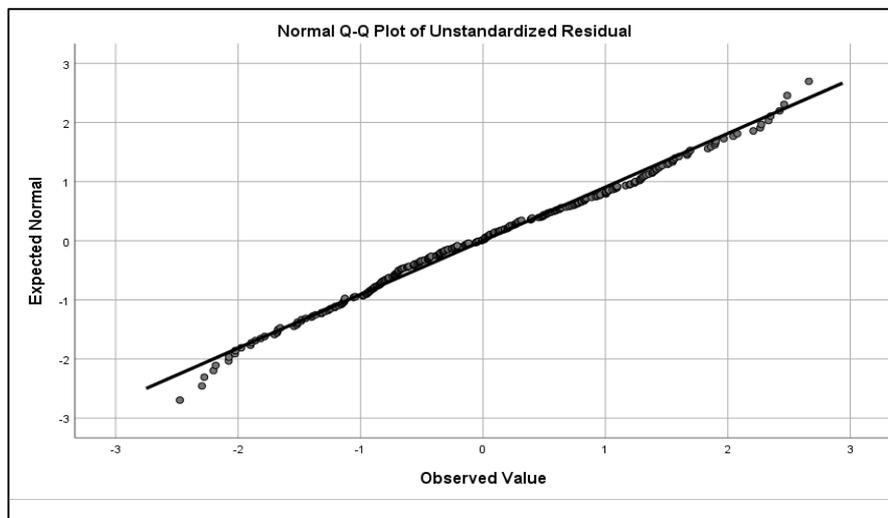
**Table G1: Skewness and Kurtosis Results**

		<b>TMS</b>	<b>OC</b>	<b>IND</b>	<b>MOTI</b>	<b>SIZE</b>	<b>UIT</b>	<b>COMP</b>	<b>IAE</b>
<b>N</b>	<b>Valid</b>	290	290	290	290	290	284	290	290
	<b>Missing</b>	0	0	0	0	0	6	0	0
	<b>Skewness</b>	-0.186	-0.261	-0.171	-0.224	0.639	-0.177	-0.082	0.026
	<b>Std. Error of Skewness</b>	0.143	0.143	0.143	0.143	0.143	0.145	0.143	0.143
	<b>Kurtosis</b>	-0.389	-0.572	-0.524	-0.573	-1.007	0.922	-0.790	-0.667
	<b>Std. Error of Kurtosis</b>	0.285	0.285	0.285	0.285	0.285	0.288	0.285	0.285

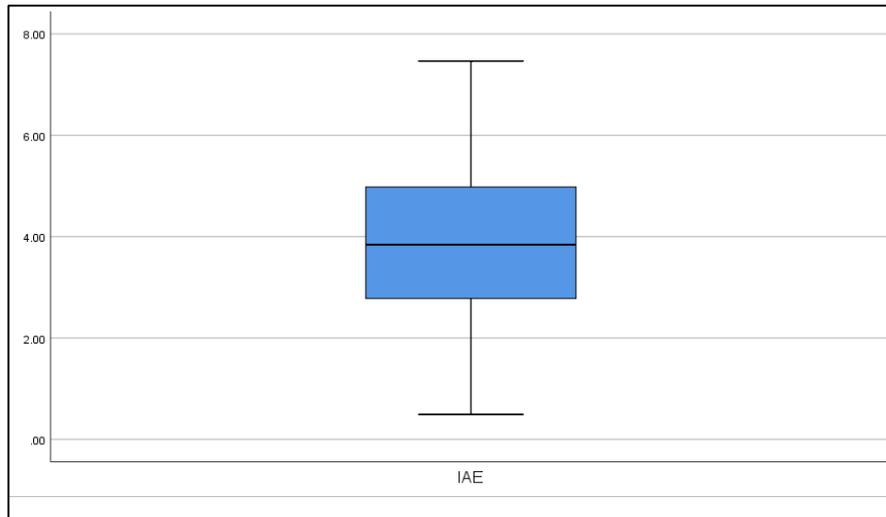
## Appendix H: Normality of Residuals



**Figure H1: Normality of Residuals for Internal Audit Effectiveness and Three External Factors**



**Figure H2: Normality of Residuals for Internal Audit Effectiveness and Four Internal Factors**



**Figure H3: Checking for Outliers**

**Table H1: Testing Multicollinearity for External Independent Variables**

Coefficients <sup>a</sup>							
Model	Unstandardised Coefficients		Standardised Coefficients		Collinearity Statistics		
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	1.020	0.220		4.643	0.000		
TMS	0.306	0.056	0.300	5.494	0.000	0.709	1.410
OC	0.252	0.060	0.233	4.193	0.000	0.681	1.468
IND	0.238	0.053	0.247	4.468	0.000	0.692	1.445

a. Dependent Variable: IAE

**Table H2: Testing Multicollinearity for Internal Independent Variables**

		<b>Coefficients<sup>a</sup></b>				<b>Collinearity Statistics</b>		
		<b>Unstandardised Coefficients</b>	<b>Standardised Coefficients</b>					
<b>Model</b>		<b>B</b>	<b>Std. Error</b>	<b>Beta</b>	<b>t</b>	<b>Sig.</b>	<b>Tolerance</b>	<b>VIF</b>
1	(Constant)	0.759	0.236		3.221	0.001		
	MOTI	0.169	0.050	0.165	3.359	0.001	0.853	1.173
	SIZE	0.057	0.014	0.212	4.045	0.000	0.745	1.342
	UIT	0.144	0.031	0.243	4.591	0.000	0.731	1.369
	COMP	0.266	0.052	0.275	5.148	0.000	0.720	1.390

a. Dependent Variable: IAE

**Table H3: Correlation Results for External Independent Variables**

		<b>Correlations</b>			
		IAE	TMS	OC	IND
IAE	Pearson's Correlation	1	.523**	.497**	.499**
	Sig. (2-tailed)		.000	.000	.000
	N	290	290	290	290
TMS	Pearson's Correlation	.523**	1	.472**	.459**
	Sig. (2-tailed)	.000		.000	.000
	N	290	290	290	290
OC	Pearson's Correlation	.497**	.472**	1	.492**
	Sig. (2-tailed)	.000	.000		.000
	N	290	290	290	290
IND	Pearson's Correlation	.499**	.459**	.492**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	290	290	290	290

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Table H4: Correlation Results for Internal Independent Variables**

		<b>Correlations</b>				
		IAE	MOTI	SIZE	UIT	COMP
IAE	Pearson's Correlation	1	.399**	.479**	.499**	.523**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	290	290	290	284	290
MOTI	Pearson's Correlation	.399**	1	.315**	.295**	.303**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	290	290	290	284	290
SIZE	Pearson's Correlation	.479**	.315**	1	.400**	.415**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	290	290	290	284	290
UIT	Pearson's Correlation	.499**	.295**	.400**	1	.446**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	284	284	284	284	284
COMP	Pearson's Correlation	.523**	.303**	.415**	.446**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	290	290	290	284	290

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Table H5: Regression Results for External Independent Variables**

**G5a-**

<b>Model Summary</b>				
<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
1	.629 <sup>a</sup>	0.396	0.390	1.13976

a. Predictors: (Constant), IND, TMS, OC

**H5b-**

<b>ANOVA<sup>a</sup></b>						
<b>Model</b>		<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1	Regression	243.651	3	81.217	62.520	.000 <sup>b</sup>
	Residual	371.532	286	1.299		
	Total	615.183	289			

a. Dependent Variable: IAE

b. Predictors: (Constant), IND, TMS, OC

**H5c-**

<b>Coefficients<sup>a</sup></b>						
<b>Model</b>		<b>Unstandardised Coefficients</b>		<b>Standardised Coefficients</b>	<b>t</b>	<b>Sig.</b>
		<b>B</b>	<b>Std. Error</b>	<b>Beta</b>		
1	(Constant)	1.020	0.220		4.643	0.000
	TMS	0.306	0.056	0.300	5.494	0.000
	OC	0.252	0.060	0.233	4.193	0.000
	IND	0.238	0.053	0.247	4.468	0.000

a. Dependent Variable: IAE

**Table H6: Regression Results for Internal Independent Variables**

**G6a-**

<b>Model Summary</b>				
<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
1	.654 <sup>a</sup>	0.428	0.420	1.10915

a. Predictors: (Constant), COMP, MOTI, SIZE, UIT

**H6b-**

<b>ANOVA<sup>a</sup></b>						
<b>Model</b>		<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1	Regression	257.037	4	64.259	52.234	.000 <sup>b</sup>
	Residual	343.230	279	1.230		
	Total	600.267	283			

a. Dependent Variable: IAE

b. Predictors: (Constant), COMP, MOTI, SIZE, UIT

**H6c-**

<b>Coefficients<sup>a</sup></b>						
<b>Model</b>		<b>Unstandardised Coefficients</b>		<b>Standardised Coefficients</b>		
		<b>B</b>	<b>Std. Error</b>	<b>Beta</b>	<b>t</b>	<b>Sig.</b>
1	(Constant)	0.759	0.236		3.221	0.001
	MOTI	0.169	0.050	0.165	3.359	0.001
	SIZE	0.057	0.014	0.212	4.045	0.000
	UIT	0.144	0.031	0.243	4.591	0.000
	COMP	0.266	0.052	0.275	5.148	0.000

a. Dependent Variable: IAE

## Appendix I: Path Analysis Results

### A- Relations between the variables regarding external factors

The interview results indicated that it would be useful to further investigate the connections between the external factors to develop a more formal model and analysis. A path analysis was used to develop this model; pathways were selected based on interview responses. Clearly, this element involves some subjectivity; however, examples of relevant answers to interview questions were used in the choice of pathways for exploration, as indicated below.

1. TMS impacts IND (P2), which in turn impacts IAE (P3).
2. TMS impacts OC (P4), which in turn impacts IAE (P6).
3. TMS impacts OC (P4), which impacts IND (P5), which in turn impacts IAE (P3).

*(P2) The guidelines for recruiting internal auditors in the organisation are inadequate. I [the director of the internal audit department] ask the human resources department for new staff and the human resources department hire new staff with the approval of the president (MIA9).*

*(P2) The minister has the right to appoint and dismiss the director of the internal audit department. Also, all internal audit directors in the ministry are hired by the minister (MIA12).*

*(P2) The general development manager recommends someone for the position of internal audit unit director to the minister and the minister approves his recommendation (MIA6).*

*(P2) Other departments do not allow us to review all the necessary documents as they say the documents contain organisational secrets. To provide us with documents and records, they [the other departments] request a letter from the top official (IA7).*

*(P2) The internal audit department has sufficient access. If other departments refuse to provide the internal audit team with some documents, then the manager of the internal audit unit contacts the top official and informs him about it; he imposes his authority on these uncooperative departments (IA11).*

*(P2) The internal audit employees send a copy to the top official and representatives when we contact other departments. Then the internal audit employees encounter cooperation and easy access to records and documents, because the other departments know if they don't assist us, they will be investigated and punished (IA8).*

*(P2) When one of the budget department employees was on a holiday for a month, the employee was replaced by someone of our employees from the internal audit department (IA4).*

*(P2) I have other duties to perform. I must do what the top management requests me to do. I cannot refuse a request from top management. Otherwise, I will be transferred to another department or maybe another branch in another city (IA2).*

*(P4) We [internal auditors] review amounts and expenses to ensure they were spent as they were supposed to be. We have to follow up and review items and transactions. The internal audit department makes sure the other departments are following the correct policies and procedures (MIA3).*

*(P4 & P5) The scope of the internal audit department's work is restricted. There are some departments that internal auditors cannot review because internal audit employees lack the authority to review these departments (IA7).*

*(P4 & P5) There is a lack of understanding in the other departments; employees view the internal auditor as someone who's there to catch mistakes. We send a letter to the department informing them that we are going to audit them and we include supporting letters from the president with that letter. They're more likely to cooperate when they see a letter from the president (MIA2).*

**Multiple regression results for the three equations regarding external factors:**

**Equation 1:**

$$\text{IAE} = x_1\text{TMS} + x_2\text{IND} + x_3\text{OC} + e_1$$

<b>Model Summary</b>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.629 <sup>a</sup>	.396	.390	1.13976

a. Predictors: (Constant), OC, TMS, IND

<b>Coefficients<sup>a</sup></b>						
Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.020	.220		4.643	.000
	TMS	.306	.056	.300	5.494	.000
	IND	.238	.053	.247	4.468	.000
	OC	.252	.060	.233	4.193	.000

a. Dependent Variable: IAE

**Equation 2:**

$$IND = x1TMS + e2$$

<b>Model Summary</b>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.459 <sup>a</sup>	.211	.208	1.34493
a. Predictors: (Constant), TMS				

<b>Coefficients<sup>a</sup></b>						
Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.035	.207		9.827	.000
	TMS	.484	.055	.459	8.767	.000
a. Dependent Variable: IND						

**Equation 3:**

$$OC = x1TMS + x2IND + e3$$

<b>Model Summary</b>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.565 <sup>a</sup>	.319	.314	1.11994
a. Predictors: (Constant), IND, TMS				

<b>Coefficients<sup>a</sup></b>						
Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.403	.199		7.039	.000
	TMS	.295	.052	.312	5.697	.000
	IND	.312	.049	.349	6.357	.000
a. Dependent Variable: OC						

**The total impact of TMS on the IAE:**

<b>Model Summary</b>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.523 <sup>a</sup>	.274	.271	1.24537

a. Predictors: (Constant), TMS

<b>Coefficients<sup>a</sup></b>						
Model		<b>Unstandardised Coefficients</b>		<b>Standardised Coefficients</b>	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.018	.192		10.523	.000
	TMS	.533	.051	.523	10.423	.000

a. Dependent Variable: IAE

## **B- Relations between the variables regarding internal factors**

The interview results also indicated that the connections among the internal factors should be explored to develop a more formal model and analysis. A path analysis was used to do this; pathways were determined based on interview responses. While this element clearly includes some subjectivity, examples of relevant answers to interview questions were used to choose pathways for exploration, as indicated below.

1. COMP impacts UTI (P2), which in turn impacts IAE (P3).
2. COMP impacts SIZE (P4), which in turn impacts IAE (P6).
3. COMP impacts SIZE (P4), which impacts UTI (P5), which in turn impacts IAE (P3).
4. COMP impacts MOTI (P8), which in turn impacts IAE (P9).
5. COMP impacts MOTI (P8), which impacts SIZE (P7), which in turn impacts IAE (P9).

*(P2) We [internal auditors] use a special internal financial program to track implementation and spending on projects. This program was developed by the organisation. The program links to other departments so we can review transactions (IA2).*

*(P2) We use internal audit software to review other departments, but we have limited access to most transactions and documents. We use other programs for the audit process, such as the Audit Work Team program, General Audit Software and Excel (IA4).*

*(P2) Some participants indicated that they have been adequately trained on the software in different workshops and courses (IA6 and IA8).*

*(P2) The utilisation of IT is restricted to Word programs and Microsoft Excel, which we use to perform internal audit tasks. Internal audit employees use these programs to write internal audit reports for the organisation. We don't have access to any programs designed specifically for internal auditing (MIA3).*

*(P2) We don't have a good, appropriate work environment in terms of IT. We don't have access to specialised internal audit software and that affects internal audit work in the organisation. It takes a lot of time to perform our work manually (MIA7).*

*(P2) There are no specialised internal audit programs available to us, because top management does not provide them. Possibly, they don't know about these programs, or it may be because of the cost of these special programs (IA3).*

*(P2) We have access to IT resources such as desktop computers and laptops, but what we need now is specialised audit software. That would speed up our work, because our operations have increased over time and we have many other departments, too (IA7).*

*(P4) This organisation has too few employees and some internal audit employees lack professional knowledge and skills (MIA6).*

*(P4 & P5) We have a limited number of employees. It's difficult to audit more than 400 branches in all regions of Saudi Arabia with only few internal auditors in this department. Every time we have requested more employees, top management hasn't even responded (MIA2).*

*(P4 & P5) There are ten employees and that's not enough. We need employees with different degrees; for example, we need engineers, accountants and financiers. We need employees with experience, especially in internal auditing. The organisations are big and we cannot audit entire departments with so few internal auditors (IA4).*

*(P7) Many employees had resigned and taken up for jobs in the private sector or in other government departments because of a lack of motivation. In some cases, internal audit staff were not even welcome in their own organisations (MIA11 and IA10).*

*(P7) I want to transfer to another department. I have lost a lot of friends and have had conflicts and problems with other departments because of this work. At the end, there is no motivation for me to keep working in the internal audit department (IA10).*

*(P7) Internal audit department staff are working so hard. However, salaries are still low and internal audit employees rarely receive overtime. There is also a lack of motivation in terms of incentives. Therefore, the internal audit department is losing good employees, who go to private sector for better salaries and standards of living (IA11).*

*(P8) There is no motivation for internal auditors ... it's difficult to get overtime and promotions. We don't get any motivation, whether financially or just in the form of appreciation. We have found mistakes and helped the organisation save large amounts*

*of money. And those mistakes were identified after a great deal of work. In the end, the organisation does not motivate us or encourage us to do this work (IA2).*

*(P8) There is no motivation for internal audit department employees, whether tangible or intangible. It's difficult to get overtime and outside assignments, which affects employee productivity (IA3).*

**Multiple regression results for the four equations regarding internal factors:**

**Equation 1:**

$$\text{IAE} = x_1\text{COMP} + x_2\text{UIT} + x_3\text{SIZE} + x_4\text{MOTI} + e_1$$

<b>Model Summary</b>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.654 <sup>a</sup>	.428	.420	1.10915

a. Predictors: (Constant), MOTI, COMP, SIZE, UIT

<b>Coefficients<sup>a</sup></b>						
Model		<b>Unstandardised Coefficients</b>		<b>Standardised Coefficients</b>	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.759	.236		3.221	.001
	COMP	.266	.052	.275	5.148	.000
	UIT	.144	.031	.243	4.591	.000
	SIZE	.057	.014	.212	4.045	.000
	MOTI	.169	.050	.165	3.359	.001

a. Dependent Variable: IAE

**Equation 2:**

$$\text{UIT} = x1\text{COMP} + e2$$

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.446 <sup>a</sup>	.199	.196	2.20295
a. Predictors: (Constant), COMP				

Coefficients <sup>a</sup>						
Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.872	.342		8.400	.000
	COMP	.728	.087	.446	8.369	.000
a. Dependent Variable: UIT						

**Equation 3:**

$$\text{SIZE} = x1\text{COMP} + x2\text{UIT} + e3$$

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.481 <sup>a</sup>	.231	.226	4.75439
a. Predictors: (Constant), UIT, COMP				

Coefficients <sup>a</sup>						
Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.659	.825		6.859	.000
	COMP	1.071	.210	.298	5.105	.000
	UIT	.587	.129	.267	4.566	.000
a. Dependent Variable: SIZE						

**Equation 4:**

$$\text{MOTI} = x1\text{COMP} + x2\text{SIZE} + e4$$

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<b>Model Summary</b>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.368 <sup>a</sup>	.135	.129	1.34197

a. Predictors: (Constant), SIZE, COMP

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<b>Coefficients<sup>a</sup></b>						
Model		<b>Unstandardised Coefficients</b>		<b>Standardised Coefficients</b>	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.300	.238		9.682	.000
	COMP	.200	.058	.209	3.458	.001
	SIZE	.061	.016	.228	3.787	.000

a. Dependent Variable: MOTI

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**The total impact of COMP on the IAE:**

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<b>Model Summary</b>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.523 <sup>a</sup>	.274	.271	1.24539

a. Predictors: (Constant), COMP

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<b>Coefficients<sup>a</sup></b>						
Model		<b>Unstandardised Coefficients</b>		<b>Standardised Coefficients</b>	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.027	.191		10.613	.000
	COMP	.510	.049	.523	10.423	.000

a. Dependent Variable: IAE

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