THE INFLUENCE OF CHIEF AUDIT EXECUTIVE'S LEADERSHIP STYLE, INTERNAL AUDIT INDEPENDENCE AND MANAGEMENT SUPPORT ON INTERNAL AUDIT EFFECTIVENESS: EVIDENCE FROM CHINA

LIU, RUILING

FACULTY OF BUSINESS AND ECONOMICS
UNIVERSITI MALAYA
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DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ACCOUNTING (REPORTING AND MANAGEMENT ACCOUNTABILITY)(MAcc)

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Name of Candidate: Liu, Ruiling

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THE INFLUENCE OF CHIEF AUDIT EXECUTIVE'S LEADERSHIP STYLE, INTERNAL AUDIT INDEPENDENCE AND MANAGEMENT SUPPORT ON INTERNAL AUDIT EFFECTIVENESS: EVIDENCE FROM CHINA

ABSTRACT

The purpose of this study is to discuss the Chinese auditors' views on the effectiveness of internal audit and to examine the leadership style of the chief audit officer, the independence of internal audit and the relationship between management support for internal audit and the effectiveness of the internal audit. In this study, the internal auditors of large Chinese organisations were selected as samples. Only those listed companies in China with internal audit function (IAF) in-house were concerned with the sampling framework. The study method used in this study was PLS-SEM analysis, with a total sample of 273 respondents. The results show that leadership style and independence of internal audit and the relationship between management support internal audit effectiveness have a positive and significant impact. This study provides evidence that CAE leadership style significantly affects the identified attributes of perceived IA effectiveness and demonstrates that the independence of internal audit and the degree of management support for the internal audit function contribute to the effectiveness of the internal audit function in Chinese listed companies. Theoretically, this study can benefit from and contribute to the research on the effectiveness of internal audit because it expands the existing literature on the factors affecting the effectiveness of internal audit in the Chinese environment. This study can provide helpful information for policymakers, governments, and professional accounting institutions in developing countries with similar economic, political, and cultural backgrounds and establish policies and frameworks related to audit effectiveness to ensure adequate supervision of capital markets.

PENGARUH GAYA KEPIMPINAN EKSEKUTIF KETUA AUDIT, KEMERDEKAAN AUDIT DALAMAN DAN SOKONGAN PENGURUSAN TERHADAP KEBERKESANAN AUDIT DALAMAN: BUKTI DARI CHINA

ABSTRAK

Tujuan kajian ini adalah untuk membincangkan pandangan juruaudit Cina tentang keberkesanan audit dalaman dan untuk mengkaji gaya kepimpinan ketua pegawai audit, kebebasan audit dalaman dan hubungan antara sokongan pengurusan untuk audit dalaman dan keberkesanan audit dalaman. Audit dalaman. Dalam kajian ini, juruaudit dalaman organisasi besar China telah dipilih sebagai sampel. Hanya syarikat tersenarai di China yang mempunyai fungsi audit dalaman (IAF) dalaman yang prihatin dengan rangka kerja pensampelan. Kaedah kajian yang digunakan dalam kajian ini ialah analisis PLS-SEM, dengan jumlah sampel seramai 273 orang responden. Keputusan menunjukkan bahawa gaya kepimpinan dan kebebasan audit dalaman dan hubungan antara sokongan pengurusan keberkesanan audit dalaman mempunyai kesan positif dan signifikan. Kajian ini memberikan bukti bahawa gaya kepimpinan CAE secara signifikan mempengaruhi sifat-sifat yang dikenal pasti bagi persepsi keberkesanan IA dan menunjukkan bahawa kebebasan audit dalaman dan tahap sokongan pengurusan untuk fungsi audit dalaman menyumbang kepada keberkesanan fungsi audit dalaman dalam syarikat tersenarai di China. Secara teorinya, kajian ini boleh mendapat manfaat dan menyumbang kepada penyelidikan tentang keberkesanan audit dalaman kerana ia memperluaskan literatur sedia ada mengenai faktor-faktor yang mempengaruhi keberkesanan audit dalaman dalam persekitaran Cina. Kajian ini boleh memberikan maklumat berguna untuk penggubal dasar, kerajaan, dan institusi perakaunan profesional di negara membangun yang mempunyai latar belakang ekonomi, politik dan budaya yang sama serta mewujudkan dasar dan rangka kerja yang berkaitan dengan

keberkesanan audit untuk memastikan penyeliaan pasaran modal yang mencukupi.

Kata kunci: China, gaya kepimpinan CAE, sokongan pengurusan untuk audit dalaman, kebebasan organisasi bagi audit dalaman, keberkesanan audit dalaman.

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF SYMBOLS AND ABBRECIATIONS

CAE: Chief Audit Effectiveness

IA: Internal Audit

IAF:Internal Audit Function

IAE: Internal Audit Effectiveness

IAP: Internal Audit Procedural

IARL: Internal Audit Relationship

IARS: Internal Audit Resources

LFL: Laissez-faire Leadership Style

MSIA: Management Support for Internal Audit

OIIA: Organizational Independence of Internal Audit

TFL: Transformational Leadership Style

TSL: Transactional Leadership Style

LIST OF APPENDICES

CHAPTER 1: INTRODUCTION

1.1 Background

Internal audit plays an essential role in preventing risks, improving management levels and promoting the stable and healthy development of the capital market of listed companies. In recent years, the internal and external audit environments have been constantly developing and changing, especially since the National Audit Office's issuance of Internal Audit Regulations in January 2018, which indicated that China's internal audit had entered a new stage of development. As a vital subject in the economic society and capital market, the internal audit work of listed companies will also have more significant updated growth and actions in the new era (Zou Shangyi, 2022). Internal auditors play an important role in preventing and dealing with all types of problems of employees, managers, and the labour forces that support all the activities of organisations, institutions, or companies to achieve predetermined goals (Arif, Maulana & Lesmana, 2020). Internal audit activities can evaluate and improve the effectiveness of risk management, control, and process governance through systematic and orderly methods, thus helping organisations to attain their objectives (Maharany et al., 2018). According to Rahayu and Suryono (2016), internal audit is an independent evaluation function established within an organisation to review and evaluate organisational activities as a form of service provided to the organisation.

In the past, the primary role of an internal auditor was to act as a supervisory body for the company. The current internal audit process has been transformed into an internal consultant whose role is to make recommendations for improvements to existing systems. The position of the internal auditor as the internal supervisor of the company makes their role less favourable. Employees feel pressure when the internal auditor conducts an internal audit.

Listed companies have to accept the external supervision of the China Securities Regulatory Commission; hence, securities institutions and intermediaries, and the internal operation, management, restriction, and information disclosure of listed companies are all standardised (Zou Shangyi, 2022). The issue of whether the listed company must establish internal audit institutions should be discussed within the company's management. Some people believe the listed company should be audited annually by external accounting firms without an internal audit (Zou Shangyi. 2022). After a complete discussion by the board of directors of the listed company, for the sake of the company's development, the listed company should conduct frequent internal audits, which must be of higher quality (Yang Wei. 2008). In 2013, China's newly revised Internal Auditing Standards defined for the first time the critical role of internal auditing in improving corporate governance and promoting added value. Internal audit has expanded from the traditional "supervision and evaluation" to "confirmation and consultation" and extended to more management fields, and its value-added function for the whole organisation has also emerged as the times require (Wang Bing & Liu Liyun, 2015). Especially in the post-Enron era, corporate governance needs have gradually shifted from external to internal, and the critical role of internal audit has become increasingly prominent (Hermanson, 2002). Many countries have introduced new governance requirements, emphasising the importance of internal audit in governance. In China, the government and enterprises have paid more attention to internal audits. Since 2003, several internal audit standards have been issued, thereby promoting internal audit rapid development. The status of internal audit in some enterprises is simultaneously rising, and internal audit plays an increasingly important role (Chen Ying &Lin Bin. 2016).

In addition to the general management regulations of the Company Law, listed companies should also comply with the specific management regulations of the China Securities Regulatory Commission and other regulatory authorities (Regulations on the Supervision and Administration of Listed Companies, 2022). As an essential part of the supervision and balance mechanism of the governance of listed companies, internal audit is indispensable (Zou Shangyi. 2022). The internal audit of listed companies plays the role of risk warning, regularly evaluates and reviews the internal control system of listed companies, and summarises errors and defects. Internal auditing is also a form of control management. Internal audit institutions and related auditors control business risks, manage business activities, and safeguard the normal operation and development of enterprises. In the past, the primary role of an internal auditor was to act as a supervisory body for the company. The current internal audit process has been transformed into an internal consultant whose role is to make recommendations for improvements to existing systems (Zou Shangyi, 2022). Internal audit not only plays the role of standardisation supervision but also the function of power checks and balances in the organisational structure, which is an essential foundation for the governance and organisational structure of listed companies. Concerning a specific business, the task of internal audit is to check and correct errors and improve management, and internal audit is the third line of defence for any organisation's risk management.

Internal auditing can be used for checking, supervising, and evaluating the adequacy and effectiveness of internal control systems, as well as the authenticity, legality, and integrity of accounting and related information, the safety and integrity of assets, the business performance of enterprises, and compliance with applicable laws and regulations.Feizizadeh (2012) similarly emphasised that the efficacy of internal audit is contingent on its influence on resource management, risk management, risk reduction,

risk assessment, and technology utilisation. Performance is the achievement of employees in completing tasks (Manik & Syafrina, 2018). The performance of an internal auditor is the work accomplished by the auditor when performing the tasks assigned to him. Such performance is measured by considering quantity, quality, and timeliness based on skills, experience, and time seriousness (Yuniasih et al., 2018). As for the auditor's performance, it pertains to an act or the completion of the audit task in a particular time. Internal auditors must provide opinions and suggestions for the company's development. Therefore, the performance of internal auditors is one of the most important factors for the company's progress. An adequate understanding of internal auditors will lead to recommendations and effective inspection results.

Internal auditors must abide by all applicable laws and regulations to obtain the expected audit results. Some standards apply to internal auditors, one of which is the auditor's performance standard. Good performance means meeting applicable performance standards. Low ability, lack of motivation, low role adaptability, and weak organisational commitment affect the performance of internal auditors. Performance evaluation determines the work efficiency of employees according to regularly predetermined standards, objectives, and guidelines. Performance evaluation helps to achieve the company's goals and continuously improve future performance. An auditor's performance is a form of employment to obtain more outstanding work results and ultimately achieve organisational goals. A high level of auditor performance must have specific standards and time frames.

1.2 Problem Statement

The development of internal audit in China started late. Gao Jing (2014) argues that at the outset of the research, the importance of internal audit was not fully recognised at

the national level or by individual companies, hence causing difficulty in finding relevant research. A few people are aware of the importance of internal audit; however, due to an insufficiency of relevant normative and institutional constraints and a lack of experience, playing a corresponding role even if it exists is difficult for the internal audit department (Gao Jing, 2014).

At present, the laws and regulations in the field of internal audit in China are not perfect, which neither clearly stipulate that internal auditors must provide comprehensive, accurate, complete, and sufficient information for external audit nor clearly define the legal responsibility of internal auditors who do not provide complete, accurate, and reliable information (Zhou,&Chu Erming. 2018). Based on the current development situation, China's laws do not severely punish enterprises for the provision of false information and other illegal acts. Thus, even if false information is provided, offenders can get out of trouble at a meagre cost (Zou Shangyi. 2022). In the actual audit process, if an excellent cooperative relationship is established between the internal auditor and the external auditor and the external auditor issues an audit report that is not conducive to the enterprise, then the audited entity will, in most cases, shift the responsibility to the internal auditor (Yang. 2019). Once the external auditor issues the audit report of the audited entity, such undertaking will not only damage the survival and development of the enterprise but will also directly harm the fundamental interests of the internal auditor. Therefore, internal auditors often need to help external auditors and establish a close working relationship (Yang, 2019). Additionally, internal auditors have an ample opportunity to manoeuvre in implementing relevant auditing standards; hence, external auditors still adopt a wait-and-see attitude on whether to use internal audit results (Zhao Rulin, Bei Wendi, Wang Wei, & Huang Yongzhe. , 2018). Based on the current practice situation, certified public accountants (CPAs) must bear certain legal risks if they intend

to use the internal audit results (Zhou Xumei &Chu Arming., 2018). Thus, the impact of China's internal audit work on the CPA's audit quality is minimal; stated differently, the effectiveness of internal audit work still has considerable room for improving the audit quality of the CPA (Zhou Xumei &Chu Arming., 2018).

The internal audit department emerged to promote the unified, stable, and effective promotion and development of all departments and reduce the risks in the disclosure of financial statements and the human intervention of management (Dai Ming, 2021). As a relatively independent party in the company, internal auditors can reflect on and supervise the work of each department, such that the financial statements can expose the operating results of the enterprise more objectively and honestly, and the impact on the quality of financial reports cannot be ignored (Dai Ming, 2021). Internal auditors are familiar with the company's operating conditions and business nature, and the areas prone to material misstatement are also more transparent. According to Gao Jing (2014), internal auditors could control the company's operating risks and the preparation of financial reports at the macro level and deal with any financial problems. Obtaining audit information and communicating with management to promptly identify and solve financial report problems are also easier for internal auditors (Zhuang Ying, 2009).

An effective internal audit can signify a check and balance mechanism in corporate governance and promote the successful operation of corporate governance. Effective corporate governance must be integrated with solid internal audit support. After investigation and study, the researchers found that small and medium-sized listed companies have created their internal audit departments, even though the listed companies in Shenzhen Main Board have no mandatory requirement to establish internal audit departments (Liu Yueting, 2019; Zhuang Ying, 2009). In addition,

research findings show that listed companies with practical internal audit work perform better than those firms with poor control work in internal control, financial reporting, and external supervision (Liu Yueting. 2019; Zhuang Ying, 2009).

The leadership style of the chief auditor of the audit department is an essential factor impacting the effectiveness of all internal audit activities (Al-Tewairi et al., 2003; Harze & William, 2014). Previous studies have indicated that increasing the research focus on the individual differences in the leadership styles of chief audit executives (CAEs) has expanded the debate on the effectiveness of internal audit (IA). Furthermore, previous studies have confirmed that the related factors of CAE leadership style significantly affect the effectiveness of IA. Traditional leadership concepts (i.e., transformational, transactional, and laissez-faire) may be unsuitable for professional team leaders in the regulatory environment. In fact, the factors related to the effectiveness of IA are identified and explored in this study, which are within the scope of the CAE's leadership style and influence ability. This information can guide the leadership development training programme proposed by the Institute of Internal Auditors (IIA); at the organisational level, the information can provide input for the appointment, retention, and succession practices of internal auditors' supervisors and senior management. As this study is exploratory, it should be viewed in the context of the lack of research on the leadership styles and behavioural dimensions of CAEs in IA (Dittenhofer et al., 2011).

Harze and William (2014) interviewed 203 managers and 239 internal auditors from 79 public sector organisations to evaluate the factors affecting the effectiveness of IA in Saudi Arabia. The results of their study show the relationship between the support from management and the effectiveness of internal audit from public organisations. Strakova

et al. (2021) suggest that business managers are increasingly searching for new means of managing and operating their businesses. The support and commitment of management are also key factors for improving the effectiveness of IA. The management's strong support for the internal auditor's work and audit process contributes to the success of the IA function. The IA process is considered an important activity compared to any other process in the organisation. Some researchers indicate that without the approval, support, and encouragement of management, the internal audit process is likely to take time and waste money. The managers' support for the internal audit department is a vital factor for accepting and appreciating the role of the IA department in business. The IPPF (2017) stipulates that the IA department needs the support of senior management and the board of directors to perform the duties and responsibilities of supervising enterprise control, risk management, and corporate governance. In their study on American public organisations, Gret et al. (2010) reveal that management support is the most important factor impacting the effectiveness of IA. Gramling et al. (2004), Salame et al. (2011), Arawat and Lowe (2004), Aikins (2011), and Octavia (2013) assert that the managers' positive attitude toward internal audit plays an important role in the audit planning process and the effectiveness of IA. In their study on the IA of public sector and local government in Malaysia, Ahmed et al. (2009) underscore that the support of management is a factor that affects the implementation of audit recommendations, the number of auditors, and the appropriate budget for implementing audits. Dolay and Omri (2016) confirm the positive impact of management support for IA. The board of directors will support the approval of IA regulations and plans, as well as the appointment, resignation, and remuneration decisions of internal auditors. As for managers, they support the administrative examination and approval of internal auditors, allocate budgets for internal auditors to implement audit plans, and actively support the training and professional development

of IA departments. In addition, senior management should recognise the importance of internal audit in the organisation and support IA to abide by the law and the duties and powers of internal auditors. The IA department must ensure proper and sufficient internal audit resources and the effective operation of IA to realise the approved plan. Onumah and Krah (2012) identify the lack of management support and inadequacy of human resources as the main reasons for the inefficiency of IA. In addition, management support has a strong relationship with the three dimensions of audit effectiveness (Alzeban & Gwilliam, 2014).

Delay and Omri (2016) verified the positive relationship between IA independence and IA effectiveness. Using a sample consisting of listed companies, the authors examined the effectiveness of IA in China. As an important part of the internal control system, the IA department undertakes the specific responsibilities of internal control evaluation, and defect identification, repair, and tracking. Zhang Xianzhi et al. (2003) assert that in the internal control system, the main function of IA is twofold: to evaluate whether the design and operation of the internal control system are effective; and to understand the managers across all departments and levels, grasp the actual management and operation conditions, recommend suggestions independently and objectively, and fix loopholes to ultimately achieve the purpose of promoting the operational effectiveness of the internal control system. The normal operation of the IA system depends on its good environment, and the independence of IA is the key environmental factor for the normal function of the IA system.

1.3 Research Gap and Study Motivation

A topic that requires more attention in the discussion about the effectiveness of IA is the role of the head of IA (i.e., chief audit executive, CAE). Damage and Barack (2018)

have tackled this subject in the South African context. Therefore, Asian developing countries such as China are discussed in the current study. In particular, the issue of whether the leadership style of the CAE affects the effectiveness of IA is further investigated in this study. Leadership quality is the most critical attribute that a CAE should possess (Burnaby et al., 2007). The CAE's leadership quality is critical for setting and driving IA success, as "the CAE may become a change agent, breaking with institutionalised habits and establishing a new pattern" (Lenz, 2013, p. 56).

The existing literature is largely focused on variables or attributes that impact IA efficacy (Endaya & Hanifah, 2016; Mihret et al., 2010; Sarens et al., 2012; Soh & Martinov-Bennie, 2011) or on the establishment of a framework that enables such effectiveness to be achieved (Badara & Saidin, 2013; Endaya & Hanifah, 2013; Lenz & Hahn, 2015). Nevertheless, in the debate about the effectiveness of IA, the function of CAE is rarely considered. The manner by which IA is managed has been highlighted as a driver of its value proposition (D'Onza et al., 2015), and a tight correlation has been discovered between the leadership skills of the CAE and the value provided by IA. The ability to lead has been considered as the most crucial attribute that a CAE should have (Burnaby et al., 2007).

The initial duty of IA is to check internal control and financial compliance. Nevertheless, in recent years, IA has occupied a more comprehensive position of internal consultation in the company's risk management function. In this setting, the assessment of how well IA accomplishes its stated goal is critical. This study expands on many previous international studies that investigated and evaluated the aspects of IA performance and effectiveness (Cohen & Sayag, 2010; Arena & Azzone, 2009; Ahmad, Othman, & Jusoff, 2009; Mihret & Yismaw, 2007; Dittenhofer, 2001; Haimon, 1998; Asairy, 1993).

In their research in the Italian context, Arena and Azzone (2009) revealed that internal audit team characteristics, audit processes and activities, and organisational links all influence IAE (Internal Audit Effectiveness). Mihret and Yismaw (2007) identified the organisational characteristics that improved or degraded IAE in Ethiopia using a mixed interview and questionnaire methodology.

Burns (1978) introduced the concept of transformational leadership, which was subsequently improved and promoted by Bass (1985). According to Dal Mas and Barac (2018), leaders promote employees' creative ideas, act as role models to gain the recognition and loyalty of subordinates, present an inspiring vision to subordinates, distinguish the growth needs of each subordinate, and listen to and train subordinates. These behavioural processes are all acts of transformational leadership. They can also be summarised into four behaviours: leadership charm, vision motivation, academic motivation, and personalised care. The focus of transformational leadership on improving the subordinates' participation in organisational goals will impact the subordinates' self-definition, emotions, beliefs, and behaviours. Research on transformational leadership has obtained extensive attention in both theory and practice:

i) Transformational leaders emphasise organisational justice, which will improve the subordinates' sense of identity with leaders and organisations.

ii) Transformational leadership increases the employees' participation, sense of belonging, and satisfaction with the organisation (Dal Mas & Barac, 2018).

iii) Transformational leaders encourage employees to treat their interests and organisational interests equally and guide employees in internalising organisational goals and undertaking extra efforts.

iv) Transformational leaders inspire the creativity and innovation of employees and motivate employees to create new ideas and question rules and systems that are

inconsistent with organisational goals.

Transactional leadership is similar to an exchange process based on fulfilling contractual obligations, focusing on contingent reward leadership and management by exception. Contingent reward leadership involves giving a corresponding reward to employees who have achieved the task objectives, whereas management by exception entails correcting or punishing employees who have deviated from or failed to achieve the task. By setting work objectives for employees and implementing contingent rewards and penalties, employee behaviours can be better stimulated and restrained. This form of incentive and constraint on employee behaviour is usually imposed externally rather than spontaneously within employees. By clearly defining tasks and responsibilities, transactional leaders can considerably promote creativity and drive employees to seek out and think about more effective operational processes or product schemes. Laissez-faire leadership is considered non-leadership (Bass, 1985, 1999; Burns, 1978). Dal Mas and Barac (2018) have established a positive relationship between transformational leadership and individual, team, and organisational performances. Poor individual and unit performances have been associated with laissez-faire leadership (Dal Mas & Barac, 2018). Therefore, the current study predicts that the CAE's leadership style would result in effective internal auditing in large organisations (i.e., listed companies) in China. This postulation has been motivated by past studies stating that listed companies with effective internal audits perform better than firms with poor control work in the areas of internal control, financial reporting, and external supervision (i.e., in the absence of the IA function in those companies).

The definition of internal audit by the Institute of Internal Auditors includes several issues such as good management, which depends on the professionalism of the

management to ensure strict IA functions. According to this definition, senior management increase the importance of the audit function and change their expectations of IA (Carcillo et al., 2005). With the support of top management, internal auditors can obtain sufficient resources to perform their duties, and the IA department can hire qualified employees and provide continuous training and development (Alzeban & Sawan, 2013; Cohen & Sayag, 2010).

The manner by which senior management demonstrate their support might provide a vital signal of the role and value of IA in the entire organisation. This support enables the IA department to perform its duties and responsibilities. The Institute of Internal Auditors emphasises the importance of the relationship between IA and senior management and how management supports IA. Senior management should participate in the IA plan, and their input should be considered by the CAE (ISPPIA 2010, IPPF, 2017). The IA department must provide complete, reliable, and relevant reports to senior management, explaining the work undertaken, the conclusions drawn, and the suggestions made. This standard stipulates that "the chief auditor must regularly report to the senior management and the board of directors the purpose, authority, the responsibility of the internal audit activities and the performance related to its plans" (ISPPIA 2006, IPPF, 2017).

According to Strakova (2021), managers of enterprises are increasingly searching for new ways of managing and running their businesses. The support and commitment of management are also essential factors for improving the effectiveness of IA. Strong support for the IA work and process results in the success of the internal audit function. The IA process is essential compared to any other organisational process. Some researchers have indicated that the IA process is likely to be a time-consuming failure

and a waste of money due to the lack of management approval, support, and encouragement. The manager's support for the internal audit department is crucial for accepting and appreciating the role of the IA department in the business. The IA department requires the support of senior management and the board of directors to supervise enterprise control, risk management, and corporate governance (IPPF, 2017). In their research on public organisations in the United States, Mi Gret et al. (2010) found that management support is the most crucial factor influencing the effectiveness of IA. Past studies (e.g., Octavia, 2013) have indicated that the managers' positive attitude toward IA plays a vital role in the audit planning process and the effectiveness of IA. In a research on IA in the public sector and local government in Malaysia, Ahmed et al. (2009) identified the support of management as a key factor affecting the implementation of audit recommendations, the number of auditors, the proper budget to implement the audit process, and the development of IA functions. Dellai and Omri (2016) demonstrated the positive impact of management support on IA. The board of directors will support the approval, appointment, resignation, and remuneration decisions of IA regulations and plans. Managers support the administrative examination and approval of internal auditors, allocate the budget to internal auditors to implement the audit plan, and actively support the training and professional development of the IA department. In addition, senior managers should be aware of the significant role of IA department in the organisation and support IA to abide by the laws, duties, and authority of internal auditors.

The IA department must ensure that appropriate and sufficient IA resources and effective IA operations can reach the approved plan. Onumah and Krah (2012) have cited the lack of management support and inadequacy of human resources in the IA function as the main reasons for the ineffectiveness of IA. In addition, Alzeban and

William (2014) have indicated that management support strongly correlates with the three dimensions of audit effectiveness. Independence refers to the freedom to eliminate situations and relationships that threaten the internal auditors' ability to reasonably and objectively perform their IA duties.

With the improvement of China's IA system, the independence of internal enterprise audit has obtained ideal results. For example, enterprises pay increasing attention to the independence of IA (Shi Yuan &Niu Lei. 2017). Many internal rules and regulations have been introduced to highlight the independence of IA. However, IA still has much room for improvement, which is mainly manifested in a significant area: the need for IA funds to be more independent (Shi Yuan &Niu Lei. 2017). At present, the IA funds of enterprises are still used in the finance department. For example, the expenses incurred by internal auditors in auditing work need to be reimbursed to the finance department of the enterprise. The independence of IA institutions needs to be further improved. For publicly traded companies, increasing the awareness of the importance of IA and recognising the IA department as a vital component of corporate governance are critical steps. The company's management should refrain from influencing the implementation of its IA procedures, allowing it to independently execute the audit job and be directly accountable to shareholders' meeting. At the same time, listed companies should focus on improving the corporate governance structure, operating in compliance with laws and regulations, strengthening the supervision of internal auditors, and ensuring the effective implementation of IA work (Li et al., 2020). Therefore, the influence of the CAE's leadership style, IA management support, and IA independence on IA effectiveness is explored in the present study.

To provide the IA function with a certain degree of independence, the CAE has the right

to direct and unrestricted contact with senior managers and those responsible for governance, communication, and reporting. In particular, the organisation's internal reports must be executed by the chief auditor to fulfil the functions and responsibilities of IA. The chief audit officer must report the independence of IA to the board of directors at least annually. Independence is a factor in the performance of IA functions without facing the conditions that may lead internal auditors to impartially exercise their duties (IPPF2017). Independence is one of the mandatory requirements in the professional ethics standard system of auditors. However, the IA department and internal auditors are an indispensable part of the organisation due to the characteristics of the organisational structure of the internal auditors of the enterprise. To ensure effective implementation and comment, the staff of the IA department need to be independent of other departments within the entity, such as senior managers and heads of different departments. These relationships should be studied to evaluate their impact on the effectiveness of IA. According to Al-Akra et al. (2016), the independence of the IA department and the internal auditor is an essential factor impacting the effectiveness of IA. To measure the independence of IA, the IPPF (2017) proposed the requirements for the reporting function of IA, including administrative reports to senior managers and functional reports of professional duties to the board of directors/audit committee or the director of the board of directors. Internal auditors have the right to have unrestricted access to documents, personnel, and other departments when collecting audit evidence to avoid conflicts of interest between internal auditors and other departments and senior managers (Christopher et al., 2009). In addition, Alizadeh (2011) indicated that the independence of IA is one of the five factors that play a vital role in the effectiveness of IA. Sumatinov-Benny (2011), Harze Ban (2014), and William (2014) suggested that the position of the IA department and the relationship with the board of directors, the directors (audit committee), or senior management have a positive relationship with the

effectiveness of IA. Dormeau Abuhammadi (2009) and Arena and Azzone (2009) recommended that to improve the effectiveness of IA, the CEO must be a member of the American Institute of Internal Audit. Being a member of an IA institution can ensure that internal auditors strictly abide by the requirements of professional ethics principles, especially independence.

1.4 Research Questions

This study, based on the problem statement, can be re-defined by the following research questions (RQs):

RQ 1: Does the CAE's leadership style affect internal audit effectiveness?

RQ 2: Does the organisational independence of internal audit affect internal audit effectiveness?

RQ 3: Does management support for internal audit affect internal audit effectiveness?

Given these specific RQs, this study aims to explore the impact of these internal causes on the effectiveness of IA. The overall purpose of this study is to investigate the impact of the CAE's leadership style, organisational independence of IA, and management support on the effectiveness of IA in the Chinese context.

1.5 Research Objectives

The main research objective is to discuss the relationship between the CAE's leadership style, the organisational independence of IA, management support for IA, and IA effectiveness (resources, procedures and relationships). This study aims to understand the Chinese auditors' views on IA effectiveness. Based on the primary research objective, this study includes several objectives, including the following:

RO 1: To examine the effect of the CAE's leadership style on IA effectiveness;

RO 2: To explore the effect of organisational independence on IA effectiveness; and

RO 3: To analyse the effect of management support for IA on IA effectiveness.

1.6 Significance of This Study

This type of research is critical to the IA industry because auditors can objectively evaluate the governance, risk management, and control processes, thus helping to improve business operations and meet organisational goals. This study can be a reference for future research on audit effectiveness and assist audit users in understanding the factors that have positive and negative effects on audit effectiveness. This study also increases the knowledge of audit effectiveness and encourages future researchers to examine this field.

1.6.1 Theoretical Contribution

The findings of this study are beneficial for summarising the influencing factors of audit effectiveness because the study expands the existing literature on the influencing factors of IA effectiveness in China. Therefore, this study will supplement the existing literature on IA effectiveness in China by investigating the internal audit effectiveness of listed companies.

1.6.2 Practical Contribution

This research can inform policymakers, governments, and professional accounting bodies in developing countries with similar economic, political, and cultural environments and assist these entities in establishing policies and frameworks related to auditor effectiveness to ensure the adequate regulation of capital markets. Based on the institutional background of internal auditing in China, this study explores the factors that impact the effectiveness of internal auditing. Compared to the previous literature that merely investigated the influence of IA organisational independence on IA

effectiveness or corporate governance on IA effectiveness, this study further enriches the research on the characteristics of IA departments. Additionally, this study improves the understanding of the IA function in China. The establishment and improvement of IA effectiveness have particular guiding significance.

1.7 Organisation of This Thesis

This thesis is divided into five chapters. Chapter 1 introduces the background of the study and the research questions. It also outlines the implications of this study and discusses the problem statement and the research gaps of the study.

Chapter 2 examines the literature on auditor independence, focusing on three selected independence issues: IA resources, IA procedures, and IA relationships. Moreover, the chapter reviews agency theory that underpins the current research and previous models of auditor independence, the CAE's leadership style factor, and the impact of IA management support and organisational independence on IA.

Chapter 3 outlines the methodologies adopted in this study. This chapter explains how quantitative and qualitative methods have been integrated to provide answers to the research questions.

Chapter 4 covers the findings and discussions of both the results obtained from quantitative and qualitative methods. This chapter also includes the analyses of data obtained via questionnaires and interviews. Details of the respondents' demographics are likewise discussed.

Chapter 5 summarises the entire thesis and concludes. This chapter also highlights the

limitations of the study and provides recommendations for future research.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The purpose of this chapter is to provide an overview of the literature on internal audit effectiveness. As this study is based on previous research, the literature is reviewed to determine where the current study fits within the existing knowledge network in the field. This chapter also includes the research questions that are formulated to further guide this study; meanwhile, the findings are discussed in Chapter 4 to answer the research questions.

This chapter is divided into six sections. The first section provides an overview of the current IA environment in China. The second section discusses the factors for evaluating the effectiveness of IA, and the third section reviews in detail the factors that affect the effectiveness of IA. In the fourth section, the leadership styles of chief audit executives are described. The fifth section focuses on the basic theory used in this study (i.e., transformational–transactional leadership theory) and the other two factors that have an impact on the effectiveness of IA, namely management support and organisational independence. Finally, resource-based theory is cited as the conceptual framework of this study.

A literature review provides the background to this study and an analysis of the past literature that is relevant to the study. This chapter briefly introduces the factors that affect the effectiveness of IA in listed companies in China. It also provides insight into the empirical evidence from the past literature, explaining how the independent variables of this study, including IA resources, IA relationships, and IA procedures, impact the effectiveness of internal auditing. Documentation is gathered from various sources such as online journals and academics, regulatory publications and standards,

articles, press releases, and newspaper articles.

2.2 Overview of the Internal Auditing Environment in China

Internal audit is defined in the "Basic Internal Audit Standards" (2018 Edition) as an independent and objective supervision and evaluation activity within a social and economic organisation. IA involves the assessment and review of the internal business activities of a social and economic organisation as well as the control of the validity, adequacy, and efficacy of these business activities, such that they can fulfil the organisational objectives.

Internal audit is referred to as the "immune system" of social and economic development. The independent exercise of audit supervision power can promote the effective implementation of national policies and the healthy and safe operation of administrative enterprises, institutions, and other social and economic organisations. With the implementation of the comprehensive rule of law strategy, the functions and effects of IA are constantly being drawn upon and highlighted in various industries and fields of the social economy (Guo Lei, 2017). At the same time, with the changes in the IA environment, the improvement of IA requirements, and the continuous advancement of IA theory and practice, people are paying increased attention to the direction of IA development, which involves the development trend of IA. Strengthening the research and discussion on the development trend of IA reflects the forward-looking and predictability of audit work, which is of great significance to better follow the development law of IA and improve the discharge of the function and role of IA in listed companies (Feng Jinmei, 2009).

For social and economic organisations to establish self-discipline and effective

management, IA is important. Strengthening internal audit work is crucial for establishing the standardised management of social and economic organisations and for enhancing the effectiveness and internal governance structures of those organisations (Li Mei, 2012). However, due to a variety of factors, many social and economic organisations require a stronger grasp of the significance of internal auditing, and these organisations' concept of the function of internal auditing is still limited to identifying errors and rectifying problems (Zhu Yongsheng, 2014). Internal audit is misconstrued as discipline inspection and supervision work and is believed to involve the investigation and handling of violations of discipline and the law; furthermore, even IA work is deemed to be in opposition to the internal work of the organisation (Guo Lei, 2017).

Some audits are mere formalities, failing to promptly identify the core problems and significant risks of the audited units. The IA of social and economic organisations requires the undertaking of post-control, in-process control, and pre-control on the audit quality (Zhu Yongsheng. 2014). However, in the actual IA work, many internal agencies and auditors of the social and economic organisations being audited encounter problems (i.e., unreasonable investigation time arrangements, an unscientific audit plan, poor pertinence, and imprecise focus) when implementing the audit plan (Guo Lei, 2017). The process is merely a formality, concentrating on superficial phenomena, failing to reasonably and scientifically maintain professional prudence, improperly implementing essential procedures, and leniently controlling key links and key audit content. These factors will cause the untimely discovery of some major problems and risks of the audited company, resulting in a passive situation of IA work and social and economic organisational development (Yang Hongxing, 2015). Accordingly, the results of IA are unscientific and inaccurate, and their importance and authority are questioned.

The quality of IA reports needs to be improved. The IA report is an essential manifestation and achievement of the IA results and a necessary reference basis for problem rectification and improvement (Guo Lei, 2017). In the actual IA process of social and economic organisations, some audit reports submitted by the audit team have flaws due to the low professional level of the report writers, the report writers' unfamiliarity with laws and regulations, their poor sense of responsibility, and the lack of prudence and rigour among the review and revision personnel. Quality flaws or even omissions have resulted in some important facts and significant risks being ignored and needing to be reflected on and disclosed in a timely manner (Yang Hongxing, 2015). Thus, the facts that have been disclosed should cover the most important concerns, the problems reported must be significant, the opinions and suggestions raised should be operable, and the audit conclusions drawn need to be highly convincing. The fulfilment of the expected goals and requirements of IA is indeed challenging (Guo Lei, 2017).

2.3 Internal Auditing Effectiveness

According to IA academics, if IA is regarded as a failure, then its value proposition will not be enhanced (Badara & Saidin, 2013; Lenz & Hahn, 2015). Success in information architecture is described in the literature as a relatively hazy notion with parameters reliant on the unique demands of a given stakeholder (Lenz & Hahn, 2015); nonetheless, the consensus is that specific, well-recognised characteristics impact it. Much of the existing literature is focused on these attributes: those attributes relating to the setting and status of IA within the organisation (Dal Mas & Barac, 2018) and the ones pertaining to the relationship between IA and management, the audit committee (AC), and external audit (EA; Badara & Saidin, 2013; Cohen & Sayag, 2010; Mihret et al., 2010). Recent research has attempted to build a framework for enhancing the efficiency of IA (Badara & Saidin, 2013; Endaya & Hanifah, 2013; Lenz & Hahn, 2015). Lenz and

Hahn (2015) proposed a multidimensional strategy for determining IA effectiveness in their analysis of IA effectiveness over the past decade. The strategy entails focusing on macro variables that depict institutional isomorphism (i.e., sensitivity to coercive, normative, and mimetic influences). Furthermore, micro factors (organisational issues, IA resources, IA procedures, and IA interactions) affect IA success (Lenz & Hahn, 2015).

A detailed study of micro factors shows that the effectiveness of IA is influenced by the auditor's characteristics, including qualification and training (Harze Ban & Ge Weilian, 2014), ability to perform quality work (Cohen & Sayag, 2010), and compliance with IA protocols, for example, the ability to plan and apply IIA (Dal Mas & Barack, 2018). The IA charter formalises the requirement for sufficient resources (Alzeban & Gwilliam, 2014) and unfettered access to people and management information to perform its function (Alzeban & Gwilliam, 2014; Cohen & Sayag, 2010). Additionally, the effectiveness of IA is influenced by its relationships with the AC, management, the EA, and auditees (Alzeban & Gwilliam, 2014; Cohen & Sayag, 2010; Lenz & Hahn, 2015; Van Gansberghe, 2005), as well as the preferred and prescribed corporate governance measures of the entity (Lenz & Hahn, 2015). Positive stakeholder relationships can help reduce worker turnover, enhance tenure, and boost the efficacy of the information architecture (Dal Mas & Barac, 2018). Review mechanisms (e.g., self-evaluation, external quality assessment, and auditee satisfaction surveys) are used for reflecting on stakeholder interactions and producing significant indicators of IA effectiveness (Lenz et al., 2017). The effectiveness of IA is measured by views of its status and capacity to contribute value (Mihret & Woldeyohannis, 2008). In the present study, these features are employed as indicators of factors affecting the effectiveness of IA.

Lenz et al. (2013) studied the characteristics of IAF, which are beneficial for distinguishing two groups of IAF with distinct levels of perceived effectiveness. By proposing four key categories of identifying, checking, and evaluating IA effectiveness level, IA resources, IA processes, and IA relationships, the current study lays the groundwork for a potential general theory of IA effectiveness.

2.3.1 Dimension of Internal Audit Effectiveness

Internal audit resources are an indispensable part of IA success, and they are key factors for the CAE and IA employees (Lenz and Hahn 2015). IA requires experienced professionals to undertake extensive audit work, and these personnel should have the necessary education, professional qualifications, and appropriate training (Al-Twaijry et al. 2003; Cohen & Sayag, 2010). Some studies have linked IA resources to the ability of internal auditors (Roussy et al., 2020; Alzeban & Gwilliam, 2014), whereas others have associated information architecture resources with information architecture outsourcing (Coram et al. 2008; Dellai & Omri, 2016; Sharma & Subramaniam, 2005; Soh & Martinov-Bennie, 2011). The ability of internal auditors includes relevant operating experience that is unique to the organisation; information technology capability; and other specific abilities such as judgement, adaptability, listening skills, and persuasion, as well as personality strength (Roussy et al., 2020). On the contrary, internal audit outsourcing provides experienced resources with professional skills for IA and promotes the objectivity and independence of IA (Dellai & Omri, 2016). In the present study, the ability of internal auditors and IA outsourcing are used as the dimensions of internal audit resources because these factors are the most important ones in forming internal audit resources.

IA processes are important to the effectiveness of IA because they allow IA to achieve

its goals. However, IA processes are formed by adopting a risk-based audit method and a quality assurance and improvement plan. Risk-based audit methods impact the audit priorities and areas to be considered during the audit, as well as the resources needed to conduct the audit and the audit tools and technologies used for achieving the audit business objectives (Institute of Internal Auditors, 2019). By contrast, the aim of the quality assurance and improvement plan is to ensure the conformance of IA to internal auditing standards and ethical standards, guarantee the efficiency and effectiveness of IA, and provide opportunities for improvement (Institute of Internal Auditors, 2019). In addition, the quality assurance and improvement plan should be formulated in such a way as to help IA institutions to add value to the organisation and improve its operation (Marais, 2004) and shape the process through the responses and feedback of internal auditors and audited entities (Institute of Internal Auditors, 2019). Some companies may schedule different audit meetings throughout the year, such that each meeting can focus on a specific department or financial element. In this case, the CAE works with the internal auditors to determine the specific parts to be audited. The CAE may also play a role in determining these times. Once the CAE has established a timeline, the identification of the main objectives behind the audit is a vital step. Identifying objectives helps narrow the focus of the review and boosts the efficiency of the process. The IA procedure is especially important if auditors are to conduct multiple audits within tight time frames. The CAE can ask leading questions to help internal auditors to deepen their understanding of the tasks that are in the audit and their manner of operation to eventually obtain more effective internal audit results.

Any relationship between IA functions is critical to the effectiveness of IA. IIA emphasises the importance of a dual reporting relationship with the audit committee and senior management, in which the first reporting line reports functionally to the audit

committee and helps IA to become effective by enabling IA to tackle sensitive matters, ensuring that IA has sufficient organisational status, preventing the organisation management from interfering to control the IA work, and guaranteeing the highest level of governance over the IA work (Institute of Internal Auditors, 2019). On the contrary, the second reporting line reports to the senior management, mainly to the CEO, which is highly important for boosting the effectiveness of IA by supporting the IA function with appropriate authority and budget, promoting its barrier-free performance of duties, and handling difficult problems with other senior leaders (Institute of Internal Auditors, 2019).

Roussy et al. (2020) underscored that the transparent and trusting relationship between the CAE and the audit committee and CEO is crucial for the effectiveness of IA. In addition, they indicated that the quality of the relationship is related to the frequency of meetings and the form of communication, which are key to the improvement of transparency and trust. In this paper, the relationship between IA and the support of the audit committee and senior management is used as the dimension of the IA relationship because the audit committee and senior management represent the main stakeholders of the IA function. The IA function cannot be effective without a positive relationship with the audit committee and appropriate support from senior management (Soh and Martinov-Bennie 2011).

2.4 Factors Influencing Internal Audit Effectiveness

Previous studies have investigated the factors that impact the effectiveness of IA. First, IA effectiveness is based on the IIA's concept of internal audit (Mihret et al., 2010; Gros et al., 2017). The paramount goal of IA is to provide an independent and objective audit and consulting function, aiming to create added value and complete organisational

activities. Internal audit helps organisations to achieve their goals by adopting a systematic approach for evaluating and improving the effectiveness of risk management processes, control processes, and corporate governance (Hass et al., 2006; Yee et al., 2008; Walter Gundaru in 2012; Dellai and Omri in 2016; IPPF2017). In their study, Yee et al. (2008) interviewed 83 managers in Singapore, including junior, middle, and senior managers, to investigate their views on the role and effectiveness of IA. The results showed that both senior and junior managers in Singapore considered the role of internal auditors in business as very important. According to the role and effectiveness of IA, the opinions of IA clients were also investigated. Dellai and Omri (2016) tested the factors influencing the effectiveness of IA by collecting 148 responses from chief audit supervisors working for Tunisian organisations. This study revealed some IA effectiveness measures, including developing audit plans, issuing internal audit reports, implementing audit recommendations, and evaluating and improving activities that meet international auditing standards.

Second, the factors that influence the effectiveness of internal audit include the independence of auditors and IA departments, the ability of internal auditors, the support of managers for IA departments, and the quality of IA work. Al-Akra et al. (2016) identified the IA function and the auditors' independence as essential factors affecting the effectiveness of IA. Dellai and Omri (2016) concluded that the independence of internal auditors has a positive impact on the effectiveness of IA. IPPF (2017) also emphasised the importance of the professional competency of internal auditors. Knowledge, skills, and other abilities are necessary factors that affect the professional ability of internal auditors to perform IA functions. Such factors assist auditors in evaluating the current business conditions and emerging problems of clients, thus providing suggestions. The ability of internal auditors is verified via their

appropriate professional and qualification certificates.

The ability of internal auditors is the most crucial factor affecting the effectiveness of all IA activities (Al-Twaijry et al., 2003; Harze & William G, 2014). Previous studies have identified the ability of internal auditors as a key variable that impacts their effectiveness. Al-Matarneh (2011), Miret Waldjo Hannis (2008), and Ali Owais (2013) suggested that the measurement of IA ability should be based on the necessary education, professional qualifications, experience, and training time of internal auditors, as well as the continuous updating of professional training. In addition, Fannin and Piercey (2014) considered soft skills such as communication, persuasion, and interaction with organisational departments as essential measures that impact the effectiveness of IA. Al-Twaijry (2003) confirmed that the effectiveness of internal auditors is positively influenced by their ability level in terms of training, experience, knowledge, and professional qualifications. Other researchers indicated that in some African countries, the lack of internal audit capacity would negatively impact the effectiveness of IA (Mihret & Yismaw, 2007; Onumah & Kela, 2012; Walter Gundaru, 2012).

Internal auditing is a time-consuming and complex procedure. It consists of several components: long-term planning, organisation, staff development, audit planning, and fieldwork activities such as observing, verifying, confirming, analysing, reporting, and conducting follow-up tasks. Additionally, dealing with interpersonal contacts, interviewing, and conferencing are involved. These critical parts of the internal auditing process should be monitored and reviewed. Internal auditing is successful when it operates in such a way that the goal indicated is accomplished (Dittenhofer, 2001). Thus, a variety of factors can impact the efficiency of IA. Numerous attributes have been

previously examined to determine the factors that influence IA effectiveness in publicly listed companies, including management support (Alzeban & Gwilliam, 2012; Drogalas, Karagiorgos, & Arampatzis, 2016; Mihret & Yismaw, 2007; Mupeta, 2017), audit experience, and competence (Alzeban & Gwilliam, 2012; Badara & Saidin, 2014). The reason is that, in addition to objective assurance and consulting activities, independence is one of the components listed in the definition of internal auditing.

MacRae and Gils (2014b) also revealed that independence is the first of nine critical characteristics of an effective public sector audit activity, as defined in the Global Internal Audit Common Body of Knowledge (CBOK). Additional research on Malaysian public sector organisations has solved the problem of the lack of independence of IA (Ahmad, Othman, & Othman, 2010; Ahmad et al., 2009), showing that the independence of IA has a beneficial impact on the effectiveness of IA (Ahmad et al., 2010). Therefore, the present research suggests that IA independence has a positive and substantial effect on the degree of IA competency (proxied by IA effectiveness). IA independence is quantified using nine variables adopted from Alzeban and Gwilliam (2014).

2.5 CAE's Leadership Style Factor

One of the factors that play a key role in providing influence and enthusiasm is leadership (Wiguna & Raf, 2014). Leadership style is a code of conduct that affects the behaviour of others or subordinates. According to Maria (2018), leadership style is how a leader influences the behaviour of subordinates, which can boost job morale and job satisfaction and improve the productivity and performance of the organisation. For Koesmono (2007), leadership refers to an individual's ability, including traits such as personality, skill, and talent. Leadership is inseparable from the leader's style,

behaviour, stance, and interaction with followers and situations. Leadership is a process of directing or influencing activities related to an organisation or group to achieve specific goals (Rismayadi & Maemunah, 2016). Furthermore, leadership is a person's ability that includes personality, skills, and talents. Leaders define the roles of followers and tell them what, how, when, and where to perform various tasks. Competence denotes an individual's ability to perform multiple tasks in one job.

The related theories of leadership behaviour have obtained considerable attention. Burns (1978) presented two key concepts in leadership theory: transformational leadership and transactional leadership. For more than 30 years, this theory has become a significant research field and direction in the West (Chen Wenjing, Shi Kan, 2007). Many empirical studies have verified the direct impact of transformational leadership on the positive work behaviour of employees. However, researchers have different opinions on the research conclusion of transactional leadership effectiveness (Bass et al., 2003).

Bass (1985) proposed that leadership is an amalgam of transformational, transactional, and laissez-faire aspects (Hargis et al., 2011), based on a framework developed by Burns (1978). Burns (1978) distinguished transformational and transactional leadership as two distinct constructs in terms of what leaders and followers offer one another. Transformational leadership provides a purpose for followers, requiring them to transcend self-interest to attain common goals (Bass, 1985), whereas transactional leadership focuses on the correct exchange of resources (Judge & Piccolo, 2004; Spinelli, 2006; Yammarino et al., 2005). Prior research has established that transformational leadership complements or enhances transactional leadership (Judge & Piccolo, 2004; Wang et al., 2011) and that both transactional and transformational behaviours are required for exceptional leadership performance (Hargis et al., 2011). A

laissez-faire leadership style is viewed as ineffectual and apathetic (Furtner et al., 2013). Laissez-faire leaders avoid the adoption of a hard stance with their subordinates, and this style of leadership has been associated with subpar individual and unit performances (Avolio et al., 1999b).

The role of the CAE is crucial to attracting and cultivating talent, improving IA effectiveness, and delivering value to the organisation (Hoos et al., 2015). The leadership style is a vital characteristic of the CAE (Burnaby et al., 2007). To define a leader's style, terms such as transformational, transactional, and laissez-faire are widely employed (Bass, 1999). Rewarding followers for achieving expectations is a common tactic used by transactional leaders, whereas inspiring and intellectually urging followers to act for the greater good is used by transformative leaders (Bass, 1999; Burns, 1978). Employee dedication and excellent organisational, team, and individual performances are all vital predictors of transformational leadership results (Casida & Parker, 2011; Dvir et al., 2002; Johnson, 1992; Wang et al., 2011). In addition, the CAE must be a transactional leader (Eagly et al., 2003). A transactional leader creates clear objectives and targets and outlines the monetary and nonmonetary rewards for achieving those targets (Hargis et al., 2011; Jing & Avery, 2008).

The findings of an empirical study by Dal Mas and Barac (2018) confirm that the CAE's leadership style significantly affects IA effectiveness. According to Lenz (2013), the quality of leadership shown by the chief audit officer substantially affects the efficacy of internal auditing processes. Furthermore, Erasmus and Coetzee (2018) assert that charismatic leadership elicits emotional responses, inspires vision, and engages followers to attain common goals through collective action.

2.5.1 Transformational-transactional Leadership Theory

As socioeconomic instability and the velocity of change increase, transformational leadership has emerged as the preferred modality (Avery, 2004). Due to the leader's charm, this leadership style engages emotions and inspires vision and involvement to accomplish shared objectives. Four elements constitute transformational leadership: idealised influence, inspirational motivation, intellectual stimulation, and individualised consideration (Judge & Piccolo, 2004). Leaders serve as significant role models, and idealised influence (II) arouses intense emotions in followers (Avolio, 1994; Bass, 1999). Among the critical leadership behaviours are the display of a high degree of competence and the successful utilisation of the leaders' power to improve the performance of their followers (Hargis et al., 2011). Inspirational motivation (IM) drives behaviour toward establishing and communicating an attractive and inspiring vision (Avolio, 1994; Judge & Piccolo, 2004) that is successful at concentrating the efforts of subordinates (Vinger & Cilliers, 2006). Intellectual stimulation (IS) motivates followers to question the inherent constraints of their views and values (Avolio & Bass, 2001). The key behaviours of leaders include promoting novel approaches, boosting the followers' awareness of challenges, and encouraging them to be creative and imaginative in their responses (Vinger & Cilliers, 2006). Individualised consideration (IC) is demonstrated when a leader offers feedback, support, encouragement, and coaching to help followers to personally improve (Bass, 1999; Vinger & Cilliers, 2006). To be effective, such leaders must interact with and address the unique requirements of their followers while being trustworthy, receptive, honest, and transparent (Bass, 1999). Transformational leadership is an excellent predictor of leadership outcomes such as increased employee commitment and high levels of organisational, group, or individual performance (Casida & Parker, 2011; Dvir et al., 2002; Judge & Piccolo, 2004; Wang et al., 2011).

Transactional leadership has a short-term orientation, with the goal of accomplishing a task through the trade of resources in return for the completion of stated actions (Avery, 2004). The focus of transactional leadership is on the specific needs of followers as a technique for motivating them via the promise of a contingent reward (Judge & Piccolo, 2004). The reward may be a positive outcome or the avoidance of a negative outcome. Transactional leadership may be defined as task management (Eagly et al., 2003), in which leaders establish explicit goals and objectives and describe the associated rewards (financial and non-financial) for attaining those goals (Hargis et al., 2011; Jing & Avery, 2008). Management by exception is the second component of transactional leadership. As a transactional leader, the CAE takes corrective action for the undesirable behaviour of followers (Hargis et al., 2011). Active management implies undertaking proactive measures to avoid issues, whereas passive management requires leaders to react only when exceptions emerge (Bass, 1991; Judge & Piccolo, 2004). Hence, the distinction is in the time of the leader's intervention (Jing & Avery, 2008).

Laissez-faire leadership is a "hands-off" style that involves avoiding decisions, not being present, and being unsure when presented with a decision. This style of leadership is nearly universally negatively connected with good followers and organisational results (Bass, 1999). Laissez-faire leaders demonstrate a need for more interest in or accountability for the progress of their operational unit (Hargis et al., 2011). Transactional and transformational leadership may be viewed as "antipoles" to laissez-faire leadership on an active–passive continuum; however, research indicates that transactional leaders do consider the use of laissez-faire leadership in appropriate circumstances (Skogstad et al., 2014, p. 324). Although the latter leadership style may have significant negative implications in critical situations (i.e., when followers lack

competences or resources), it has significantly less influence in instances where the followers can cope (Skogstad et al., 2014).

2.6 Management Support for Internal Audit

The manner by which top management express their support undoubtedly sends a strong message about the importance of internal auditing throughout the company. This assistance enables the IA department to perform its functions and responsibilities. The International Standards for the Professional Practice of Internal Auditing (ISPPIA) emphasises the critical interaction between internal auditing and senior management, as well as the ways in which management may assist internal auditing. Senior management should be involved in developing the internal audit strategy, and the CAE should take their advice into account (ISPPIA, Standard 2010.A1). The IA department provides sufficient, credible, and pertinent reports to top management on the work accomplished, findings obtained, and recommendations made. The standard stipulates that "the Chief Audit Executive must report to senior management and the board monthly on the purpose, authority, responsibility, and performance of the internal audit activity in relation to its plan" (ISPPIA, Standard 2006).

Internal auditing, as defined by the IIA, encompasses concerns such as good governance, which is dependent in part on management expertise to provide a thorough IA function. In acknowledgment of this challenge, top management have elevated the prominence of the IA function and altered their expectations of internal auditing (Carcello et al., 2005). Christ et al. (2015) underscore the increase of organisational expertise as a major benefit of this practice, as the systematic rotation in different organisational departments provides internal auditors with the possibility to gain specific knowledge about the operations and procedures that comprise the core processes of the business.

Internal auditors may obtain adequate resources to perform their tasks and obligations with the assistance of senior management, and the IA department can employ skilled people and offer ongoing training and development (Alzeban & Sawan, 2013; Cohen & Sayag, 2010). ISPPIA emphasises the critical need for CAE to report to top management on any scope or financial constraints impeding its success. According to Alzeban and Gwilliam (2014) and George et al. (2015), a positive association exists between management support and IA effectiveness.

The IAA will function effectively if it garners sufficient recognition, acceptance, and appreciation from the authority in the organisation (Alzeban & Gwilliam, 2014; Sarens & De Beelde, 2006). As IA plays a critical role and provides constructive services for the organisation's control environment and risk assessment (Adetiloye et al., 2016; Sinha & Arena, 2018), continuous and comprehensive training will improve competencies and help prevent and detect fraud (Salameh et al., 2011). More recent studies have discussed the role of management in assessing fraud risk in the activities of organisations (Alleyne & Howard, 2005; Baker et al., 2017) by building the capacities and competencies of organisational members to combat fraud activities (Kabuye et al., 2017; Iwasokun et al., 2019). Alleyne and Amaria (2013) find evidence that the auditors' education via audit training (Drogalas et al., 2017) is a form of management support that helps identify corporate fraud.

To be successful, IA must have senior management support to hire and educate qualified and experienced employees, as well as build a connection with external auditors (Alzeban & Gwilliam, 2014). Cohen and Sayag (2010) consider senior management support as an essential factor for IAF success, as administrative support is

significantly connected to the three dimensions of IA effectiveness (i.e., audit quality, evaluations of regulators, and contribution to added value). According to Soh and Martinov-Bennie (2011), the relationship of IA with senior management regarding funding and lines of reporting is critical to its effectiveness. Endaya and Hanifah (2016) similarly indicate that senior management support for IAF is critical for the efficacy of IA, and such support has a moderating impact on the direct association between the competence of the internal auditor and IA effectiveness. Furthermore, Ahmad et al. (2009) assert that appropriate administrative support for the IAF, including adequate resources in terms of personnel and funding, significantly affects the implementation of IA recommendations.

2.7 Organisational Independence of Internal Audit

Independent auditors have long been viewed as a critical component of the auditor position. Although the emphasis has historically been on external audit independence, professional bodies and standard setters have highlighted the importance of independence and objectivity for internal auditors, even though the organisation typically employs internal auditors. The independence and objectivity of the IA department are crucial components of its efficacy (CIPFA, 2003). IA is an independent and objective guarantee and consulting activity that aims to increase value and improve organisational operations. Additionally, IA involves the evaluation and improvement of the effectiveness of risk management, control, and governance processes by introducing systematic and standardised methods, thus helping organisations to achieve their goals (IIA, 2017). The global professional standards and guidelines in the ISPPIA and Implementation Guide show that IA can achieve formal independence and objectivity if it reports to all levels of the IA department of the organisation to independently accomplish its duties; avoid conflicts of interest; maintain direct contact with the board

of directors and senior management; gain unrestricted access to records, employees, and departments; appoint and remove the person in charge of IA who is not directly controlled by the senior management; and avoid performing non-audit work.

According to George, Theofanis, and Konstantinos (2015), independence is assessed regarding the IA's report to the highest level, the unrestricted access of internal auditors, and IA performance in the development of the company's process. The internal auditor may face independence issues as they are the organisation's staff; however, the external auditor from the National Audit Department does not face these problems as they report directly to the Auditor General (Amanuddin Shamsuddin et al., 2014). Florea and Florea (2013) suggest that the IA function must be independent of the activities being audited, must also be independent of everyday internal processes, and must be capable of exercising its assignment on its own initiative in all the departments, establishments, and functions of the organisation.

2.8 Resource-based Theory

Until the 1990s, in an attempt to understand the potential sources of competitive advantage, considerable attention was given to the external environment approach and strategic analysis, which mainly emphasised the external or industry environment and the competitive positioning of the organisation (Barney, 1991; Grant, 1991). In the 1990s, however, the resource-based view was developed, and the focus shifted from the external environment to the internal context of the organisation. The new perspective subsequently highlighted organisational resources and capabilities as a primary source of competitive advantage (Barney, 1991; Grant, 1991; Kazlauskaiteē & Bučiūnienē, 2008).

A fundamental proposition of resource-based theory is that firms are heterogeneous (Barney, 1991; Esteve-Perez & Manez-Castillejo, 2008). Each organisation is viewed as a distinctive collection of tangible and intangible resources and capabilities that are acquired, developed, and expanded over time. The focus of resource-based theory is on an organisation's resources as determinants of differences in the organisation's performance and behaviour. According to this theory, a firm must seek unique attributes that may provide superior performance. This theory is built around the internal competencies of firms (Dierickx & Cool, 1989; Prahalad & Hamel, 1990; Wernerfelt, 1984). According to Grant (1991), resource-based theory emphasises internal, firm-specific factors and their effect on performance; additionally, in this theory, organisations are perceived as a collection of resources combined to form organisational capabilities. Thus, competitive advantage originates from the inside of a firm, in its valuable and unique assets (Russo & Fouts, 1997).

As documented by Barney (1991), "resources include all assets, capabilities, organisational process, firm attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness" (p. 101). Similarly, Bryson et al. (2007) describe resources as any asset that can be utilised to help an organisation achieve its objectives and perform well. However, to ensure productivity, these resources require support and synchronisation. As capability is the capacity for a coordinated collection of resources to perform some tasks and activities, resources are the source of an organisation's capabilities, which in turn are the primary source of its competitive advantage (Grant, 1991).

Resource-based theory was used for investigating the antecedents of IA efficacy. In the current paper, internal resources and the external environment are regarded as essential

components in establishing IA effectiveness. Resource-based theory is believed to be capable of providing a reasonable and cogent explanation for the importance of valuable and uncommon resources in helping the formulation of strategies that improve IA performance. The resource-based perspective (Barney, 1991; Grant, 1991), which underscores the importance of internal organisational resources as a primary source of competitive advantage, organisational performance, and behaviour (Barney, 1991; Grant, 1991), is instrumental in examining the impact of tangible and intangible assets on IA effectiveness. As a result, in line with resource-based theory, which emphasises the relative importance of internal organisational factors in facilitating the success of internal auditing, this study underlines the relative importance of internal organisational factors in facilitating the success of internal auditing. The application of resource-based theory in examining IA effectiveness is based on the assumption that if an organisation has a greater number of specific internal resources or capabilities, its effectiveness will improve. The reason is that, similar to other departments in a company, the IA department requires resources to offer its services (Kruger, Steyn and Kearney, 2002).

In particular, resource-based theory does not consider all the resources of an organisation, but it merely focuses on strategic resources, that is, those resources constituting the basis of the organisation's sustainable competitive advantage (Amit & Schoemaker, 1993; Rangone, 1999). Numerous authors have proposed several tests to determine such resources. However, Barney (1991) provided the most popular assessment. According to Barney (1991), resources should hold the potential of sustained competitive advantage when they demonstrate four attributes, namely the resources are valuable, unique or rare among the current and potential competitors of a firm, imperfectly imitable, and non-substitutable.

In the resource-based view, various classifications of resources have been proposed in the literature. Wernerfelt (1984), for instance, classified resources as physical assets, intangible assets, and organisational capabilities that are partially and permanently bound to the organisation. Grant (1991) categorised resources into homogeneous groups: tangible, intangible, and human. Tangible resources include financial and physical resources such as plants, machinery, and equipment. Intangible resources include technology and reputation, whereas human resources refer to employee culture, training, expertise, commitment, and loyalty. According to Barney (1991), resources are necessary for an organisation, and many resources are not wholly imitative or replaceable. Barney (1991) classified resources into physical capital resources, human capital resources, and organisational resources. Physical capital resources include physical infrastructure, geographic location, and access to raw materials. Human capital resources encompass the training, experience, knowledge, intelligence, relationships, and insight of individual managers, as well as the expertise and skills of workers. Organisational capital resources incorporate a firm's formal reporting structure, which includes formal and informal planning and controlling and coordinating systems, as well as informal relations among groups within a firm and between a firm and those companies in its environment.

Several other researchers have also provided explanations for the classification of resources. For instance, Hall (1993) stated that resources employed to create competitive advantage are classified as tangible (e.g., financial resources, capital, and production capability) or intangible assets (e.g., intellectual property, trade secrets, corporate reputation, and culture). Fahy and Smithee (1999) similarly categorised resources as tangible assets, intangible assets, and capabilities. Tangible assets typically have a fixed long-run capacity, and the properties of ownership are relatively

uncomplicated to measure and somewhat easy to duplicate. On the contrary, intangible assets comprise intellectual property, which have a relatively unlimited capacity and are quite difficult to duplicate. Capabilities are hidden assets covering the skills of individuals and groups, organisational routines, and interactions; moreover, capabilities lack clearly defined property rights, and they are extremely difficult to duplicate. In an examination of various resources affecting agency performance, Lee (2009) further classified organisational resources into six types: administrative (structural), human resources, financial resources, physical resources, political resources, and reputable resources.

Based on the preceding discussion, resources can be classified into tangible and intangible assets. However, competitors easily duplicate tangible assets, and most scholars espousing the resource-based view assert that tangible assets are a relatively weak source of competitive advantage and economic benefit (Barney, 1991; Grant, 1991; Kapelko, 2005). By contrast, intangible resources are considered as more critical to an organisation and hold the potential for sustained competitive advantage because they are difficult to duplicate (Hall, 1992). Additionally, one of the objectives of resource-based theory is to help managers to appreciate why intangible assets such as individual skills, organisational knowledge, and competencies can be perceived as valuable assets and to understand how these assets can be used for improving business performance (Caldeira & Ward, 2003). Intangible assets are also portrayed as more prominent than tangible assets because they are more likely to meet Barney's (1991) four conditions, as previously mentioned. This depiction is supported by findings from previous studies conducted by Bontis, Chua, and Richardson (2000), Carmeli and Tishler (2004), Flatt and Kowalczyk (2008), and Galbreath (2005).

The application of the resource-based view in prior studies' investigations of performance shows that resource-based theory has emerged as an overall theoretical perspective for explaining performance over the past two decades and has obtained considerable attention in the strategic management literature (Newbert, 2007). Resource-based theory has also developed as a critical perspective guiding inquiry into the determinants of organisational performance (Crook, Ketchen, Combs and Todd, 2008; Newbert, 2007). Even with its essential insights, the resource-based view has observed only the properties of organisational resources in influencing sustainable competitive advantage. Notably, the resource-based view has yet to investigate the social context within which resources are embedded and how this context might affect performance. To extend the resource-based view, this paper proposes combining insights from institutional theory (DiMaggio & Powell, 1983; Scott, 1987) in investigating IA effectiveness.

To date, studies examining the determinants of IA effectiveness are apparently limited. Thus, this paper suggests a theoretical framework for resource-based theory in investigating the antecedents of IA effectiveness. In this study, internal resources and the external environment are identified as critical factors for achieving IA effectiveness. Resource-based theory is viewed as capable of offering a plausible and coherent explanation for the significance of valuable and rare resources in facilitating the formulation of strategies leading to the superior performance of the IA function. The resource-based perspective, which highlights the importance of internal organisational resources as a primary source of competitive advantage and organisational performance and behaviour (Barney, 1991; Grant, 1991), is highly relevant in investigating the impact of tangible and intangible assets on IA effectiveness.

Therefore, paralleling resource-based theory that relates an organisation's internal resources to the achievement of an added advantage, this study highlights the significance of internal organisational factors in facilitating the success of internal auditing. Consideration of the applicability of resource-based theory in analysing IA effectiveness is based on the argument that if an organisation possesses several specific internal resources or capabilities to a greater extent, IA effectiveness will be improved. The reason is that the IA department, similar to other departments in an organisation, requires resources to provide its services (Kruger, Steyn and Kearney, 2002).

Despite the importance of the resource-based perspective, exclusively employing it in examining IA effectiveness can be considered as far from comprehensive, as such perspective could undermine the pivotal role of external pressures from the environment. The reason is that resource-based theory merely focuses on the internal resources of an organisation. Organisations, as well as IA departments, are also affected by pressures from the external environment. This inference is supported by the assertions of DiMaggio and Powell (1983).

2.8.1 Dimension of Resource-based Theory

Resource-based theory is crucial for checking the extent to which the effectiveness of internal audits is affected by external factors. As the theory about the effectiveness of internal audits is limited, this study uses resource-based theory to construct a suitable theoretical framework. This theory helps to check the resources and capabilities of an organisation and ensure the effectiveness of internal audits. Resource-based theory supports audit research in developing countries where IA remains underdeveloped (Alkebsi & Aziz 2018 Alku, Amelin & Hassan 2019; Nasibah 2015).

Furthermore, resource-based theory is useful for exploring specific external factors beyond the control of the IA department, which may affect the effectiveness of the IA process. This theory is also highly suitable for checking the internal factors that may affect the effectiveness of IA within the control of the department. Resource-based theory provides a foundation for research by focusing on the benefits of effective IA, which has been proven to play a vital role in the public sector. This theory is also helpful in explaining the functions and strategic resources required for this process.

An effective IA can identify fraud, provide consulting services, and add value; thus, this process can be regarded as a highly valuable strategic resource. Therefore, considering effective IA as a key resource can provide a paradigm in which resource-based theory can be employed for checking the effectiveness and use of IA. For example, Alkebsi and Aziz (2018) applied resource-based theory to analyse the relationship between the use of information technology, top management support, and IA effectiveness. The support of senior managers has a significant impact on IA effectiveness. Resource-based theory provides a deeper insight into the organisation's strategy, thus gaining a more sustainable competitive advantage. The effectiveness of IA is the main focus of this study; therefore, achieving results is the outcome of a resource-based strategy. Resource-based theory is useful for exploring specific external factors, including top management support, organisational culture, and the independence of internal auditors. These resources are essential for effective audit practice, and they can be unique and built into each individual organisational structure, making them difficult to imitate and replace.

The resource-based approach shows that cultivating IA as a tangible and intangible resource can help an organisation to achieve considerable success; therefore,

organisations should provide incentives to internal auditors to maintain their enthusiasm. In this study, the size of the IA team is the second internal factor affecting the effectiveness of internal audit; this factor can properly determine the degree of effectiveness. According to resource-based theory, the IA department must be equipped with sufficient personnel to enable team members to effectively perform their duties and improve organisational performance. Hence, adequate staff in the IA department are an important tangible resource.

In this study, the application of information technology is the third internal factor affecting IA effectiveness. The success of the IA framework depends on available resources, and this framework can improve the effectiveness of IA as a strategic tool. Resource-based theory supports the view that the theory should be used for increasing the success of an organisation and rapidly achieve its goals.

The ability of internal auditors is identified in this study as the fourth internal factor that affects the effectiveness of internal audit. Resource-based theory holds that the ability of internal auditors has an impact on the effectiveness of IA, and internal auditors are intangible assets. As intangible assets, human resources are the most important organisational resources; human resources are the combination of the abilities, professional or academic qualifications, and experience of all employees. Therefore, a qualified and competent internal auditor will significantly affect the operational efficiency and organisational reputation of IA.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

The focus of this chapter is on a detailed research framework covering the research structure. This chapter comprises 10 sections. The theoretical framework and the research hypothesis of this paper are discussed in Section 3.2 and Section 3.3, respectively. The sampling technique, design of this study, and testing of the theoretical relationship are described in Section 3.4, Section 3.5, and Section 3.6, respectively. The pilot test conducted in this study to prepare for the follow-up investigation is discussed in detail in Section 3.7. The pilot test process and its results are presented in Section 3.8. The descriptive statistical analysis of the pilot test research is provided in Section 3.9. Finally, the measurement model of this paper is explained in Section 3.10.

3.2 Theoretical Framework

Previous studies have identified the leadership style of the chief auditor (Dal Mas & Barac, 2018), management support for internal audit (Mohd Yusof et al., 2019), and IA independence (Alzaban & Gwilliam, 2014) as appropriate factors for investigating the effectiveness of IA. The previous theoretical research and discussion assisted in the formulation of the theoretical framework in the current study The theoretical framework is illustrated in Figure 1.
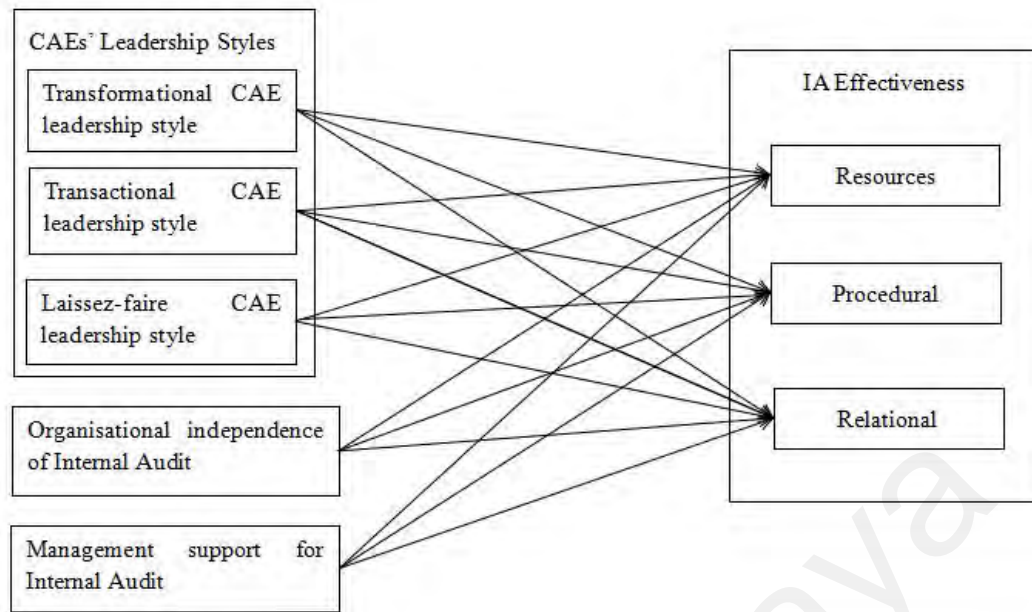
Figure 3.1: Theoretical Framework

3.3 Hypothesis Development

Contemporary research on IA shows that improvements in its effectiveness—the extent to which IA meets its raison d'être (Mihret & Yismaw, 2007)—are needed to attain its value proposition (Endaya & Hanifah, 2016; Lenz & Hahn, 2015; Alzeban & Gwilliam, 2014; Lenz & Sarens, 2012). Thus, IA effectiveness, seen as a benchmark for IA relevance, has captured the attention of IA scholars (Lenz & Hahn, 2015). The debate on what IA effectiveness entails is ongoing (Lenz & Hahn, 2015), and calls to extend the body of knowledge have been made, especially in developing countries (Endaya & Hanifah, 2016). In his comprehensive study on IA effectiveness, Lenz (2013) views the quality of leadership demonstrated by the CAE to be of particular importance in setting and driving IA effectiveness, as "the CAE may become a change agent, breaking with institutionalised practices and establishing a new pattern". As a result of Lenz's call for CAEs to be transformative, the question remains whether a CAE's transformative leadership style (or a transactional or laissez-faire leadership style) relates to attributes or factors influencing IA effectiveness. The present study attempts to clarify the issue

by presenting a CAE leadership perspective on factors related to IA effectiveness. Thus, the aim of this study is to investigate the relationship among the leadership styles of CAEs, the organisational independence of IA, management support for IA, and IA effectiveness.

Based on the above-mentioned arguments, the following hypotheses are proposed:

H1: There is a positive relationship between transformational leadership style and IA effectiveness.

Sub-hypotheses:

H1a: There is a positive relationship between the CAE's transformational leadership style and the resources dimension of IA effectiveness.

H1b: There is a positive relationship between the CAE's transformational leadership style and the procedural dimension of IA effectiveness.

H1c: There is a positive relationship between the CAE's transformational leadership style and the relational dimension of IA effectiveness.

H2: There is a positive relationship between the CAE's transactional leadership style and IA effectiveness.

Sub-hypotheses:

H2a: There is a positive relationship between the CAE's transactional leadership style and the resources dimension of IA effectiveness.

H2b: There is a positive relationship between the CAE's transactional leadership style and the procedural dimension of IA effectiveness.

H2c: There is a positive relationship between the CAE's transactional leadership style and the relational dimension of IA effectiveness.

H3: There is a positive relationship between the CAE's laissez-faire leadership style and IA effectiveness.

Sub-hypotheses:

H3a: There is a positive relationship between the CAE's laissez-faire leadership style and the resources dimension of IA effectiveness.

H3b: There is a positive relationship between the CAE's laissez-faire leadership style and the procedural dimension of IA effectiveness.

H3c: There is a positive relationship between the CAE's laissez-faire leadership style and the relational dimension of IA effectiveness.

A previous study indicated that in several developing nations, the lack of independence is a barrier to achieving adequate IA performance. Brierley et al. (2001) urged that internal audit reports be sent to the highest level of the organisation in Sudan to guarantee that remedial action is taken to execute IA recommendations. Schyf (2000) identified the nonexistence of IA independence as a challenge for the IA function of the South African public sector. He raised concerns about communication channels and reporting levels, as well as their consequences for independence. Additional research conducted in poor nations demonstrated the lack of independence of the IA function. The independence of the IA department is to ensure the absence of interference (Emmanuel, 2013). The overall aim is to avoid conflicts of interest due to the independence of the IA department and thus avert fraud or legal action (Council, 2014). Cohen and Sayag (2010) and Alzeban and Gwilliam (2014) also argued that the independence of IA affects IA effectiveness.

Based on the preceding discussion, the fourth hypothesis is formulated:

H4: There is a positive relationship between organisational independence and internal audit effectiveness.

Sub-hypotheses:

H4a: There is a positive relationship between the organisational independence of internal audit and the resources dimension of IA effectiveness.

H4b: There is a positive relationship between the organisational independence of internal audit and the procedural dimension of IA effectiveness.

H4c: There is a positive relationship between the organisational independence of internal audit and the relational dimension of IA effectiveness.

Previous studies have cited support from top management as critical to the success of IA functions. Ahmad et al. (2009) identified management support as the second-most important determinant of IAE within the Malaysian public sector after the sufficiency of the auditing staff. The authors indicated that with support from management, IA recommendations would likely be implemented, and IA would be well-resourced in terms of staff and budget. Reporting on the Ethiopian public sector, Mihret and Yismaw (2007) found that the absence of management support negatively affected the IA function by cultivating a poor attitude toward that function by auditees, who perceived management support as important because it appeared to be low on the agenda of senior management. Van Gansberghe (2005) analysed internal auditing in the public sector in four countries: Kenya, Uganda, Malawi, and Ethiopia. The results of the study revealed that to be effective, internal auditing requires management's acceptance and appreciation of the contribution and value that internal auditing can add to organisations. Baltic and Yilmaz (2006) noted that the IAE would be enhanced by giving the department the right to allocate its overall budget. Without such empowerment, senior management might reduce resources when they feel threatened. Management support might also be lacking if management fails to implement the recommendations of IA; such indifference could substantially reduce the effectiveness of the function (Van Gansberghe, 2005). The implementation of IA recommendations is considered as a

strong indicator of IA effectiveness (Van Gansberghe, 2005).

Based on the preceding discussion, the fifth hypothesis is formulated:

H5: There is a positive relationship between management support for internal audit and IA effectiveness.

Sub-hypotheses:

H5a: There is a positive relationship between management support for internal audit and the resources dimension of IA effectiveness.

H5b: There is a positive relationship between management support for internal audit and the procedural dimension of IA effectiveness.

H5c: There is a positive relationship between management support for internal audit and the relational dimension of IA effectiveness.

3.4 Sampling Techniques

The quantitative research method of a structured questionnaire survey was adopted in this study. Through a literature review, the six-factor leadership model based on Avolio et al. (1999) and Bass and Avolio (1997) was used for investigating the CAE's leadership style (Dal Mas & Barac, 2018), measuring the independence of IA based on the questionnaire of Mohd Yusof et al. (2019), and assessing management support for IA based on Alzeban and Gwilliam (2014). Pre-test and pilot tests were conducted before the actual data collection.

This research focuses on the factors affecting internal audit effectiveness. To achieve this purpose, this study concentrates on the Chinese public sector listed on Shanghai Stock Exchange as the population of this study. The unit of analysis indicates to the aggregation level of the data collected before data analysis stage (Sekaran & Bougie,

2016). Therefore, it might be organisations, groups, or individuals (Collis & Hussey, 2009). This study attempted to understand the factors affecting internal audit effectiveness among Chinese public sector institution from the point view of the internal auditors. In this study, individual auditors were the unit of analysis.

A questionnaire survey of the internal auditors of listed companies under the jurisdiction of the Shanghai Stock Exchange was conducted in this study. The Shanghai Stock Exchange was established on 26 November 1990 and opened on 19 December of the same year. A member-based legal person that provides venues and facilities for centralised securities trading, organises and supervises securities transactions, and implements self-regulatory management. Listed companies play a vital role in promoting the national economy of China (Yousaf & Majid, 2017). In the current report, data from listed companies in China were collected to examine the relationship between variables through hypothesis testing. These enterprises were obtained according to the ranking order of comprehensive strength of listed companies in 2022. Furthermore, the suitable enterprises were detected by searching the websites of enterprises, identifying suitable respondents from enterprises, and obtaining the contact information of these respondents. A questionnaire with a link to the online survey and a description of the purpose of the survey was subsequently sent to potential respondents through the QuestionStar platform. Survey results are easy to quantify, saving time, money, and human resources in a rapid and economical manner. Moreover, with the expansion of the scope of the survey, the questionnaire was gradually forwarded to other contacts to enable more people to read it. Finally, PLS-SEM was used for data analysis.

In addition to examining the effectiveness of internal auditing and the factors that influence it, specific parts of the survey also asked respondents about their age, gender,

and other personal information. The primary focus of this study was on the measurement of the impact of the CAE's leadership style, the internal auditor's organisational independence, and management's support for the internal auditor on the effectiveness of internal auditing.

3.5 Research Design

A detailed research framework and structure is covered in this section. To reiterate, the quantitative research method of a questionnaire survey was adopted in this study. Through a literature review as a part of the research process, the dependent and independent variables and the relationship between them were identified. The survey questionnaire was developed with reference to the survey questionnaires used by Dal Mas and Barak (2018), Mohd Yusof et al. (2019), and Alzaban and Gwilliam (2014). To conduct the investigation, a questionnaire was developed for internal auditors. The questionnaire was adopted from past research, and some modifications were made to adapt it to the current environment in China. It was consistent with this study to collect data for subsequent analysis. Before the actual data collection, five experts conducted an expert review (pretest) of the questionnaire, and 50 investigators performed a pilot test. For the entire data collection, the questionnaires were sent and collected online again through the QuestionStar platform. A total of 345 questionnaires were distributed this time; 290 were obtained using online software such as WeChat and Weibo, of which 273 were valid and 17 were incomplete. In this study, partial least squares (PLS) regression was used for testing variables and model structures, and the questionnaire samples were analysed by SmartPLS3.2.9.

3.5.1 Survey Administration

A questionnaire was developed in this study to measure the factors that indicate the

effectiveness of IA and the leadership style of the CAE, the independence of the IA organisation, and management support for IA. The questionnaire consisted of two sections. Section B covered the respondent's demographic information. Section A included a seven-point Likert scale to investigate the leadership style of CAE. The questionnaire was considered as appropriate because it measured leadership, internal audit independence, and IA management support issues. The respondents were asked to refer to the CAE's recent behaviour for their IA functions, the organisational independence of IA, and management support for IA, and then answer 13 questions related to the structure of transformational, transactional, and laissez-faire leadership. The nine issues pertained to the organisational independence of internal auditing, and the six issues were related to the management support for IA. Finally, the effectiveness of IA was measured in three aspects: resources, procedural, and relational. A seven-point Likert scale response option was used for various questions presented by the interviewees (i.e., 1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neutral, 5 = agree, 6 = somewhat agree, and 7 = strongly agree).

3.5.2 Data Collection Procedure

Ethics approval for the research was obtained from the university where the research was conducted. Before the main study was undertaken, the questionnaire was reviewed by expert reviewers from the academic and industry fields concerned to validate the survey questions. Some changes were made to the general information questions, all factors questions, and IA effectiveness questions for clarity. The questionnaire used in the main study, assuring anonymity and confidentiality, was distributed to respondents using an emailed link to an electronic survey platform to facilitate response and data collection.

Questionnaires have been proven to be a predominant and helpful tool for empirical investigations in past studies. The questionnaire design has a direct correlation with the accuracy of the final study findings. As a result, verifying that the questionnaire is well-designed and that data gathering is legitimate and consistent is critical. Two components comprise the questionnaire design: the variable inquiry and the demographic measure.

The measurement question items for each variable in the model were provided in this research, based on the theoretical foundations for model design. To ensure the validity of the variables, items were retrieved or altered from known English-language measures created by experts in the literature. A stringent translation-back translation procedure was performed to confirm the reliability and validity of the instruments. Two academics with expertise in the subject were asked to translate the English scales associated with the study variables into Chinese scales. Two more researchers with high English proficiency were subsequently asked to revise the translated Chinese scale. The four researchers then conducted a central assessment, detected disparities between the translated Chinese and English measures, and made revisions to guarantee that both scales had the same semantic meaning.

3.5.3 Operational Definitions of The Variables

Recent studies have attempted to develop a framework to improve IA effectiveness (Badara & Saidin, 2013; Endaya & Hanifah, 2013; Lenz & Hahn, 2015). In their literature review on IA effectiveness in the past decade, Lenz and Hahn (2015) suggested a multifaceted model for determining IA effectiveness. The model comprises micro factors (organisational matters, IA resources, IA processes, and IA relationships) that impact IA effectiveness (Lenz & Hahn, 2015).

A detailed analysis of micro factors shows that IA effectiveness is influenced by auditor

attributes such as qualifications and training (Alzeban & Gwilliam, 2014; Cohen & Sayag, 2010; Mihret & Yismaw, 2007); their ability to perform quality work (Al-Twaijry et al., 2004; Cohen & Sayag, 2010) by following the IA protocol, for example, to have a plan, and an ability to apply IA standards and adopt a risk-based audit approach (Coetzee & Lubbe, 2013; Lenz & Hahn, 2015; Sarens et al., 2012); and being governed by an IA charter (IIA, 2016; Sarens & De Beedle, 2006; Sarens et al., 2012). The IA charter formalises the need for adequate resources (Alzeban & Gwilliam, 2014; Mihret & Yismaw, 2007) and unrestricted access to personnel and management information (Alzeban & Gwilliam, 2014; Cohen & Sayag, 2010) as a prerequisite to the performance of its activities. IA effectiveness is further impacted by its relationships with the AC, management, the EA, and auditees (Alzeban & Gwilliam, 2014; Cohen & Sayag, 2010; Lenz & Hahn, 2015; Van Gansberghe, 2005), and the preferred and prescribed corporate governance measures of the entity (Lenz & Hahn, 2015). Positive stakeholder interactions can contribute to the reduction of staff turnover, thus increasing tenure and impacting IA effectiveness (Beasley et al., 2006; Mihret & Yismaw, 2007). Review processes (i.e., self-assessment, external quality assessment, and auditee satisfaction surveys) are used for reflecting on stakeholder interactions and generating meaningful indications of IA effectiveness (Lenz et al., 2017; Sarens et al., 2012; Soh & Martinov-Bennie, 2011). IA effectiveness is reflected in perceptions about its status and capacity to add value (Mihret & Woldeyohannis, 2008).

In the present study, several measures of IA effectiveness were employed, including the department's perceived capability to plan, improve the organisation's productivity, assess the consistency of results with established objectives and goals, implement IA recommendations, evaluate and improve risk management, assess internal control systems, and provide recommendations for improvement. Furthermore, this study

attempted to explain the independence of IA and the extent of management support for the IA function. Table 3.1 shows the measurable variables of this study. The factors were identified from a review of the previous academic literature examining the IA function.

Table 3.1 Operational Definition of Variable

	Measurable variables	Sources of Literature
Transformational leadership style		
TFL1	The CAE makes internal auditors feel goodaround him/her	Dal Mas&Barac (2018)
TFL2	The internal auditors have complete faith inthe CAE	
TFL3	Internal auditors are proud to be associated with the CAE	
TFL4	The CAE expresses with a few simple words,what internal auditors should do	
TFL5	The CAE provides appealing images about what internal auditors can do	
Transactional leadership style		
TSL1	The CAE tells the internal auditors what to do if they want to be rewarded for their work	Dal Mas&Barac (2018)
TSL2	The CAE provides recognition rewards, when internal auditors reach their goals	
TSL3	The CAE calls attention to what the internal auditors can get for what they have accomplished	
TSL4	The CAE is satisfied when the internal auditors meet agreed upon standards	
TSL5	As long as things are working the CAE does not try to change anything	
Laissez-faire leadership style		
LFL1	The CAE is content to let the internal auditors continue working in the same way as always	Dal Mas&Barac (2018)
LFL2	Whatever the internal auditors want to do is ok with the CAE	
LFL3	The CAE asks no more of the internal auditors, than what is absolutely essential	
IA Effectiveness - Resources dimension		
IARS1	IA has a budget to reasonably carry out its activities	Alzeban and Gwilliam (2014), Arena and Azzone,
IARS2	IA has adequate resources to reasonably carry out its activities	

IARS3	Internal auditors should possess the necessary knowledge and skills to achieve their individual responsibilities	(2009), Badara and Saidin, (2013); Cohen and Sayag, (2010), Endaya and Hanefah (2016)
IARS4	The organisation has established training programmes for IA staff	
IARS5	The organisation expects IA staff to participate in continuous professional development programmes	
IA Effectiveness – Procedural dimension		
IAP1	IA applies International Standards for the Professional Practice of IA	Arena and Azzone, 2009; Cohen and Sayag, 2010; Lenz et al., 2017; Sarens et al., 2012; Soh and Martinov-Bennie, 2011
IAP2	The IA charter is approved by a boardcommittee such as the audit committee	
IAP3	IA follows a risk-based audit approach	
IAP4	IA conducts quality work (e.g., audit reportsare published timeously, and follow-up actions carried out to correct problems found)	
IAP5	IA annual plan is prepared by the Chief Audit Executive (CAE)	
IAP6	IA function undergoes recurring quality self-assessment reviews	
IAP7	IA undergoes an external quality assessment at least every five years as determined by the Standards	
IA Effectiveness – Relational dimension		
IARL 1	The CAE meets with the chair of the audit committee and encourages meeting with the audit committee informally	Alzeban and Gwilliam (2014), Badara and Saidin, (2013), Cohen and Sayag, (2010); Endaya and Hanefah, (2016), Mihret and Yismaw, (2007); Mihret et al. (2010), Sarens and De Beelde, (2006); Sarens et al. (2012), Soh and Martinov-Bennie, (2011)
IARL 2	The CAE reports to the board's audit committee	
IARL 3	The board's audit committee appoints and removes the CAE	
IARL 4	External Auditors relies on the work of the IA	
IARL 5	External Auditors and IA have access to each other's working papers	
IARL 6	IA is adaptable, and able to meet the changing needs of business	
Organizational independence of internal audit		

OIIA1	Internal audit staff are sufficiently independent to perform their professional obligations and duties;	Mohd Yusof et al (2019)
OIIA2	The head of internal audit reports to a level within the organization that allows internal audit to fulfill its responsibilities;	
OIIA3	The head of internal audit has direct contact to the board (to the president for government organizations;	
OIIA4	The internal audit department has direct contact with top management other than the finance director;	
OIIA5	Conflict of interest is rarely present in the work of internal auditors;	
OIIA6	Internal auditors rarely face interference by management while they conduct their work;	
OIIA7	Internal audit staff have free access to all departments and employees in the organization;	
OIIA8	The board of directors (the president for government organizations) approves the appointment and replacement of the head of internal auditing;	
OIIA9	Internal audit staff are not requested to perform non-audit functions.	
Management support for internal audit		
MSIA1	Senior management supports internal audit to perform its duties and responsibilities	(Alzaban & Gwilliam 2014)
MSIA2	Senior management are involved in the internal audit plan	
MSIA3	Internal audit provides senior management with sufficient, reliable and relevant reports about the work they perform and recommendations made	
MSIA4	The response to internal audit reports by the senior management is reasonable	
MSIA5	Internal audit department is large enough to successfully carry out its duties and responsibilities	
MSIA6	Internal audit department has sufficient budget to successfully carry out its duties and responsibilities	

3.5.4 Data Analysis Procedure

The questionnaires obtained from the respondents were checked and analysed for

coding preparation. The coded questionnaires were then analysed using statistical techniques in the Statistical Package for Social Science (SPSS) version 25.0 software (Cooper & Schindler, 2003). Furthermore, the PLS-SEM tool was used for conducting the hypothesis testing. Before performing the statistical analysis, the data were checked for errors to ensure that no values were missing or that the outliers of a variable were within the possible range. The variables in the study were measured using the data collected from the questionnaire.

3.6 Testing the Theoretical Relationship

Path models are constructed following theory and are frequently used for validating theoretical relationships. A theory is a collection of connected hypotheses produced through the scientific process that may be used for explaining and predicting events. Thus, hypotheses are standalone conjectures, but theories are collections of hypotheses that are logically connected and empirically testable. This study requires two types of models: a measurement model and a structural model. The measurement model describes the indicators to be utilised for quantifying a particular construct and how these indicators are to be employed. By contrast, the structural model defines how the components in the model are connected (The final version of PLS-SEM primer. 2016).

A two-step procedure is adopted to test the models using PLS-SEM (Hair, Black, Babin, & Anderson, 2019). First, we validated and confirmed the reliability and validity of the measurement model. Following confirmation of the measurement models, we proceeded to the structural model testing. The argument is that the measurement model must be initially validated before testing the structural model, as the structural model can only be validated if the measures are reliable and accurate.

3.6.1 Specifying the Structural Model

A critical first step in the early phases of any research endeavour involving the application of SEM is to create a diagram that graphically depicts the study hypotheses and variable correlations to be examined (Bruner, 2019; Zarantonella & Pauwels-Delassus, 2015). This figure is frequently referred to as a route model. Early in the research process, researchers might use a route model for organising their thoughts and visualising the links between the variables of interest. Path models are also effective for exchanging ideas among academics working on or assessing a research topic (David & Brusco, 2013).

Two components comprise path models: the structural model (also known as the inner model in PLS-SEM), which describes the relationships between the latent variables; and the measurement model (otherwise known as the outer model in PLS-SEM), which describes the relationships between the latent variable and its measures (i.e., its indicators). The structural models that were constructed during Stage 1 are described below. The Stage 2 measurement models are explained in the next section (David & Brusco, 2013).

When developing a structural model, two key aspects must be considered: sequencing the structures and their interactions. These concerns are crucial to the modelling notion because they reflect the hypotheses and their link to the tested theory (Hair, J. F., Hult, G., Ringle, C. M., & Sarstedt, M. . 2016).

3.6.2 Specifying the Measurement Models

The structural model elucidates the connections between latent variables (constructs). By comparison, measurement models capture the relationship between constructs and

their associated indicator variables (Sarstedt, Ringle, & Hair, 2017a). The measurement theory serves as the foundation for establishing these relationships. To obtain beneficial results from PLS-SEM, a sound measurement theory is required. Hypothesis tests involving the structural relationship between constructs are only as reliable or valid as the measurement models that describe how these constructs are measured.

Typically, researchers have some established measurement approaches to choose from, each slightly different from the others. In fact, almost all social science researchers today use established measurement approaches published in prior research studies or scale handbooks (Bearden, Netemeyer, & Haws, 2011; Bruner, 2019; Zarantonella & Pauwels-Delassus, 2015) that performed well (Ramirez, David, & Brusco, 2013; and Ramirez, David, & Brusco, 2013). However, in some instances, a researcher is confronted with the absence of an established measurement approach and is forced to develop a new set of measures (or substantially modify the existing approach). A lengthy and detailed description of the general process for developing indicators to measure a construct is possible. Hair, Black, Babin, and Anderson (2019) outlined the essentials of the process. Diamantopoulos and Winklhofer (2001), DeVellis (2017), and MacKenzie, Podsakoff, and Podsakoff (2011) similarly provided comprehensive explanations of several measurement development methodologies. In each case, the researcher's selection of indicators for measuring a particular construct lays the groundwork for the subsequent analysis.

3.7 Pilot Test

A draft questionnaire was initially sent to five scholars from the School of Business and Economics of the University of Malaya for a pretest. The scholars were asked to submit suggestions for improvement. As a result, the lengthy questions, spelling errors,

structural problems, and interpretation errors in the questionnaire were corrected, and the comprehensibility of the questionnaire was improved.

3.8 Pilot Test Process and Its Results

After revising the pretest, a pilot test was conducted to ensure that the questionnaire could be understood. The revised questionnaire was then sent out for a pilot test. Fifty members were selected to participate in the pilot test, including 40 audit graduate students, six auditors, and four accounting staff. In this manner, all other necessary changes were made according to the suggestions of the pilot respondents. After minor modifications, the revised questionnaire became more objective and precise and facilitated the distribution to the target group of internal auditors. The pilot test results were tested for reliability to ensure that the questionnaire structure could continue. The results of the pilot study reported that the descriptive statistical analysis achieved for the items under each variable was reliable. Hence, this study attained acceptable value due to the questions adopted from previous related studies.

3.9 Descriptive Statistical Analysis

As shown in Table 3.2, the pilot study constituted 47 items, and the mean value was between 3.259 and 5.603, indicating that these 50 sample respondents included 40 audit graduate students from the Hubei University of Economics, the Huazhong University of Science and Technology, and Wuhan University. Six auditors were from Shanghai Haute Enterprise Group Co., Ltd. and four respondents from the accounting staff of China National Power Investment Corporation. The data shows that mainly at the level of consent. The standard deviation was between 0.814 and 1.793, and the data comparison was relatively scattered. Explain that the design of these topics has a reasonable degree of discrimination. In addition, the skewness of the topic was between

-1.296 and 0.806, and its absolute value was less than 3. The kurtosis ranged from -1.183 to 2.285, which is less than 3, thus proving that the data of these 47 questions are presented in the normal distribution and can be directly used for the statistical analysis (i.e., reliability and validity).

Table 3.2 Descriptive Statistics

	Minimum	Maximum	Mean	SD	skewness	kurtosis
TFL1	1	6	4.121	1.035	-1.206	1.525
TFL2	1	6	5.845	1.337	-0.775	-0.326
TFL3	1	7	5.690	1.221	-1.069	0.408
TFL4	1	7	4.345	1.384	-0.890	0.066
TFL5	1	7	5.000	1.365	-1.296	0.875
TSL1	3	7	4.621	0.906	0.699	0.802
TSL2	2	6	4.293	0.871	-0.299	0.463
TSL3	2	7	4.138	1.074	0.488	-0.370
TSL4	3	7	4.534	0.814	0.477	0.495
TSL5	3	7	4.793	0.886	-0.184	-0.040
LFL1	1	7	4.155	1.186	-0.31	1.565
LFL2	1	7	3.621	1.311	0.649	1.746
LFL3	1	6	3.500	1.118	-0.342	0.939
OIIA1	1	7	4.069	1.596	0.459	-0.394
OIIA2	1	7	3.724	1.506	0.581	-0.285
OIIA3	1	7	3.603	1.597	0.133	-0.302
OIIA4	1	7	4.500	1.380	-0.525	-0.656
OIIA5	2	6	4.103	1.140	0.006	-0.635

OIIA6	2	6	3.845	1.142	0.100	-0.647
OIIA7	2	7	3.828	1.248	0.392	-0.200
OIIA8	1	7	3.793	1.186	0.479	0.650
OIIA9	2	7	3.897	1.078	0.806	1.233
MSIA1	1	5	3.655	0.901	-0.699	0.367
MSIA2	1	6	3.707	1.034	-0.817	0.965
MSIA3	1	7	3.621	1.080	-0.616	2.285
MSIA4	1	5	3.603	0.927	-1.244	1.560
MSIA5	1	7	4.224	1.035	-0.470	1.181
MSIA6	1	7	5.603	1.426	-1.278	1.350
IARS1	2	7	3.828	1.053	0.539	1.357
IARS2	1	7	3.569	1.191	0.272	1.745
IARS3	1	6	3.328	0.972	-0.364	1.179
IARS4	1	5	3.638	0.904	-0.498	0.180
IARS5	1	5	3.466	0.969	-0.484	-0.005
IAP1	1	7	3.500	1.793	0.221	-0.933
IAP2	1	7	3.759	1.590	0.198	-1.050
IAP3	1	6	3.810	1.279	-0.191	-0.301
IAP4	1	7	3.879	1.587	-0.274	-0.792
IAP5	1	6	3.948	1.105	-0.288	-0.069
IAP6	1	6	3.776	1.130	-0.056	-0.506
IAP7	2	6	3.879	0.966	-0.222	-0.642
IARL1	2	7	4.190	1.383	0.171	-0.644
IARL2	1	6	3.707	1.300	-0.349	-0.704

IARL3	1	5	3.431	1.366	-0.331	-1.183
IARL4	1	6	3.845	1.080	-0.525	0.328
IARL5	1	6	3.879	1.052	-0.299	0.188
IARL6	1	6	3.690	1.086	-0.257	-0.582

Note: TFL=Transformational Leadership Style
TSL=Transactional Leadership Style
LFL=Laissez-faire Leadership Style
OIIA=Organizational Independence of Internal Audit
MSIA=Management Support for Internal Audit
IARS=Internal Audit Resources
IAP=Internal Audit Procedural
IARL=Internal Audit Relationship

3.10 Measurement Model

3.10.1 Analysis of Reliability and Convergence Validity

Reliability analysis is used for measuring the reliability and stability of the scale. The α coefficient proposed by Cronbach (1951) is used for measuring the consistency of items. When α value is more significant than 0.7, then the results of each item in the questionnaire tend to be consistent, that is, the higher the reliability of the questionnaire. Convergence validity refers to the similarity of measurement results when different measurement methods are adopted to measure the same feature; that is, different measurement methods should be aggregated in the measurement of the same feature. According to the convergence validity standard, the CR of the variable is above 0.6 and the AVE is above 0.5 (Wu Minglong, 2009).

As shown in Table 3.3, the Cronbach's α coefficients of all the variables on this scale are more significant than 0.7. The Cronbach's α coefficients of the whole scale are between 0.846 and 0.927, which denotes that the measurement performance of all the potential variables has good internal consistency and high reliability and is in accordance with the reliability standard of DeVellis. The combination reliability (CR)

and average extraction variance (AVE) of each structure in Table 4.3.1 are all greater than 0.6 and 0.5, respectively, which verifies the convergence validity standard of Wu Minglong (2009). However, the average extraction variance (AVE) of the internal audit's organisational independence is less than 0.5, thus failing the convergence validity standard.

Table 3.3 Dimension Reliability and Validity

	Cronbach's Alpha	rho_A	Composite reliability	(AVE)
TFL	0.907	0.956	0.930	0.728
TSL	0.885	0.915	0.915	0.683
LFL	0.927	0.956	0.953	0.872
OIIA	0.846	0.924	0.876	0.501
MSIA	0.822	0.904	0.867	0.609
IARS	0.876	0.888	0.907	0.620
IAP	0.905	0.917	0.924	0.634
IARL	0.906	0.927	0.927	0.680

Note: TFL=Transformational Leadership Style
TSL=Transactional Leadership Style
LFL=Laissez-faire Leadership Style
OIIA=Organizational Independence of Internal Audit
MSIA=Management Support for Internal Audit
IARS=Internal Audit Resources
IAP=Internal Audit Procedural
IARL=Internal Audit Relationship

3.10.2 Discriminant Validity

Difference validity mainly tests whether the measurement items are related to different factors.

As shown in Table 3.4, the AVE root value of each variable is higher than the

correlation coefficient of each variable. Hence, the scale has good discrimination judgement, suggesting excellent discriminant validity (Hair et al., 2017). In addition, the correlation between exogenous constructs is less than 0.85 or 0.90 (Hair et al., 2017). The discriminant validity of all constructs is therefore fulfilled.

Table 3.4 Discriminant Validity by the Fornell–Larcker Criterion

	TFL	TSL	LFL	OIIA	MSIA	IARS	IAP	IARL
TFL	**0.853**							
TSL	0.322	**0.827**						
LFL	0.438	0.33	**0.934**					
OIIA	0.581	0.415	0.301	**0.699**				
MSIA	0.291	0.398	0.508	0.305	**0.781**			
IARS	0.313	0.492	0.451	0.466	0.379	**0.787**		
IAP	0.174	0.137	0.298	0.292	0.193	0.403	**0.796**	
IARL	0.217	0.173	0.256	0.366	0.395	0.321	0.317	**0.825**

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3.10.3 Test of Heterotrait–monotrait Ratio of Correlations

As presented in Table 3.5, the HTMT value between each latent variable in this study is less than 0.85, which meets the threshold judgement standard, indicating that it has good discriminant validity and can lay a data foundation for the next research.

Table 3.5 HTMT

	TFL	TSL	LFL	OIIA	MSIA	IARS	IAP	IARL
TFL								
TSL	**0.332**							
LFL	0.447	**0.343**						
OIIA	0.571	0.446	**0.346**					
MSIA	0.349	0.450	0.597	**0.38**				
IARS	0.341	0.537	0.478	0.463	**0.419**			
IAP	0.214	0.157	0.322	0.299	0.213	**0.436**		
IAPL	0.218	0.19	0.287	0.384	0.388	0.352	**0.358**	

Note: TFL=Transformational Leadership Style
TSL=Transactional Leadership Style
LFL=Laissez-faire Leadership Style
OIIA=Organizational Independence of Internal Audit
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IAP=Internal Audit Procedural
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CHAPTER 4: DATA ANALYSIS AND DISCUSSION OF FINDINGS

4.1 Introduction

This chapter presents the analysis of the empirical results of the questionnaire survey using the advanced statistical tool PLS-SEM. The chapter comprises several sections. The response rate of the questionnaire survey is shown in Section 4.2. The data quality is discussed in Section 4.3, including the data screening and non-response bias test. The results of the descriptive analysis, including the description of the demographic information and each variable, are discussed in Section 4.4. The assessments of the measurement model and the structural model are discussed in Section 4.5 and Section 4.6, respectively. Sequentially, the results of the moderating effect in the model and the group comparison are discussed in Section 4.7. Sections 4.8 and 4.9 include the total effect and the results of theory testing. The results of the fundamental data analysis of this study are summarised in Section 4.10. Finally, Section 4.11 presents a discussion of the findings.

4.2 Data Screening

As all the questions in the questionnaire are set as mandatory questions, the respondent must answer all the questions before submitting the questionnaire. Therefore, the received questionnaires are complete, and no data missing are missing. The data are directly converted into the processing format required by SPSS and PLS-SEM.

4.3 Population and Sample

Population refers to the whole group from which statistical samples are drawn. It also pertains to a whole group of people, objects, events, or cases characterised by some common features. In this study, population refers to all the internal auditors of different

listed companies; these individuals are on-the-job internal auditors of listed companies in China, which is also the object of this study. Sampling elements pertain to the analysis units or cases in the sampled population (rndal et al., 2003).

This study was conducted by issuing questionnaires to internal auditors of listed companies in China. The minimum sample size of this survey was 114 (Cohen, 1992; see Table 4.1). The questionnaire was sent via email to Shanghai listed companies (IAF) with IA functions. Respondents must have more than two years of professional experience in senior IA positions and have senior IA academic and professional qualifications.

Table 4.1 Response Rate Statistics

Maximum number of arrows pointing at construct	Significance Level			
	1%			
	Minimum R²			
	0.10	0.25	0.50	0.75
2	158	75	47	38
3	176	84	53	42
4	191	91	58	46
5	205	98	62	50
6	217	103	66	53
7	228	109	69	56
8	238	114	73	59
9	247	119	76	62
10	256	123	79	64

4.4 Demographic Information

The demographic information of the respondents was obtained from the survey, including gender, age, nationality, education level, research field, design, establishment

of the IA department, work experience, professional qualifications, annual cost of IA functions, and the organisation's annual sales for the most recent year. Table 4.2 shows the overall frequency distribution of respondents in the above categories.

Regarding gender, most respondents are male, accounting for 52.40% of the total sample. Auditors aged 25–35 accounted for the most significant proportion, constituting 33.40%. The respondents generally have a master's degree (46.20%) and a bachelor's degree (41.40%). The field with the least number of auditors involved in this research field was art, accounting for 24.90%, whereas the commercial field constituted 42.2%. In this study, internal audit senior manager accounted for only 3.70%, whereas assistant IA manager accounted for 35.50%, followed by audit supervisor (25.20%) and IA manager (22.00%). The distribution of audit positions is consistent with the age structure. Most IA departments where auditors work have been established for 5–20 years, accounting for 79.2%. Work experience was mostly 1–10 years, accounting for 61.50%. Most audit departments have 1–2 auditors with professional certificates, constituting 30.80%, but few internal audit departments have more than 8, accounting for 6.90%. The annual cost of most companies was CNY 100,000–1,000,000, representing 33.4%. The annual sales were mostly between CNY 10 million and 250 million, accounting for 44.3%.

Table 4.2 Demographic Information

Demographic Information	Categories	Frequency	Percent(%)
Gender	Male	143	52.4
	Female	130	47.6
Age	20- 25 years	53	19.4
	25-35 years	91	33.4

	35-45 years	52	19.1
	45-55 years	34	12.4
	55 – 65 years	23	8.4
	More than 65 years	20	7.3
Nationality	China	273	100
	Others	0	0
Education Level	Diploma	16	5.8
	Bachelor's degree	113	41.4
	Master's degree	126	46.2
	PhD	18	6.6
Field of Study	Arts	68	24.9
	Science	90	32.9
	Business	115	42.2
Designation	Head of Internal Audit/President/Vice President of Internal Audit	37	13.6
	Internal Audit Manager	60	22
	Audit Supervisor	69	25.2
	Assistant Internal Audit Manager	97	35.5
	Internal Audit Senior Manager	10	3.7
Established of IA department	1 – 5 years	33	12
	5 - 10 years	78	28.6
	10 -15 years	61	22.3

	15 – 20 years	77	28.3
	More than 20 years	24	8.8
Experiences	1 – 5 years	83	30.4
	5 - 10 years	85	31.1
	10 -15 years	33	12.1
	15 – 20 years	35	12.8
	More than 20 years	37	13.6
Qualified employee	None	48	17.6
	1-2	84	30.8
	3-4	61	22.3
	5-6	33	12.1
	7-8	28	10.3
	Above 8	19	6.9
Costs	Less Than CNY 100,000	55	20.2
	CNY 100,000- 1,000,000	91	33.4
	CNY 1,000,000- 5,000,000	79	28.9
	More than CNY 5,000,000.	48	17.5
Sales	< CNY 10 Million	86	31.5
	CNY 10 Million to 250 Million	121	44.3
	> CNY 250 Million	66	24.2
Total		273	100

4.5 Narrative Statistical Analysis

As shown in Table 4.3, the total number of items is 47, and the average (mean value) is between 3.514 and 6.396. The standard deviation is between 0.742 and 2.026, and the data comparison is relatively scattered. Explain that the design of these topics has a reasonable degree of discrimination. In addition, the skewness of the topic is between –1.166 and 0.905, and its absolute value is less than 3. The kurtosis is between –1.313 and 2.213, less than 3, which proves that the data of these 47 questions are presented in the normal distribution and can be directly used for statistical analysis (i.e., reliability and validity).

Table 4.3 Descriptive Statistics

	Minimum	Maximum	Mean	SD	skewness	kurtosis
TFL1	1	7	5.560	1.283	-0.308	0.897
TFL2	1	7	4.377	1.453	-0.411	0.262
TFL3	1	7	5.231	1.41	-0.045	0.408
TFL4	1	7	4.905	1.292	-0.755	0.586
TFL5	1	7	5.176	1.355	-1.166	1.024
TSL1	2	7	5.777	1.128	0.341	-0.206
TSL2	2	7	4.615	1.084	0.534	0.652
TSL3	2	7	6.396	1.371	0.434	-0.949
TSL4	2	7	4.67	1.174	0.241	0.024
TSL5	1	7	4.839	1.248	-0.181	0.115
LFL1	2	7	3.465	1.18	0.501	0.684
LFL2	1	7	3.894	1.337	0.898	0.874
LFL3	1	7	3.949	1.35	0.22	0.25

OIIA1	1	7	4.418	1.708	0.321	-0.999
OIIA2	1	7	4.026	1.658	0.381	-0.729
OIIA3	1	7	3.938	1.731	0.31	-0.691
OIIA4	1	7	4.531	1.414	-0.419	-0.413
OIIA5	1	7	4.059	1.203	-0.05	-0.13
OIIA6	1	7	4.103	1.111	-0.188	-0.569
OIIA7	1	7	4.311	1.313	-0.356	-0.394
OIIA8	2	7	4.352	1.383	0.494	-0.451
OIIA9	1	7	4.198	1.227	-0.204	-0.374
MSIA1	1	7	4.176	1.345	0.685	0.428
MSIA2	1	7	4.139	1.376	0.579	0.385
MSIA3	1	5	3.945	0.969	-1.056	1.149
MSIA4	1	5	3.821	0.742	-1.106	2.213
MSIA5	1	5	3.949	0.833	-0.822	0.821
MSIA6	2	7	4.487	0.817	0.021	1.105
IARS1	1	7	3.993	1.237	0.831	0.746
IARS2	1	7	3.824	1.249	0.905	1.455
IARS3	1	7	3.538	1.099	0.775	1.204
IARS4	1	7	3.711	0.969	0.316	1.03
IARS5	1	7	3.63	0.983	0.495	0.871
IAP1	1	7	4.22	2.026	-0.015	-1.313
IAP2	1	7	4.366	1.559	-0.012	-1.078
IAP3	1	7	4.161	1.489	-0.058	-0.344
IAP4	1	7	4.201	1.635	-0.186	-0.781

IAP5	1	7	4.198	1.23	0.14	0.064
IAP6	1	7	4.106	1.252	0.012	0.069
IAP7	1	7	4.15	1.187	0.314	0.235
IARL1	1	7	4.19	1.409	0.258	-0.426
IARL2	1	7	3.934	1.481	0.202	-0.245
IARL3	1	7	3.514	1.46	0.306	-0.197
IARL4	1	7	4.088	1.275	0.303	0.768
IARL5	1	7	3.949	1.36	0.479	0.222
IARL6	1	7	4.007	1.334	0.47	0.128

Note: TFL=Transformational Leadership Style
TSL=Transactional Leadership Style
LFL=Laissez-faire Leadership Style
OIIA=Organizational Independence of Internal Audit
MSIA=Management Support for Internal Audit
IARS=Internal Audit Resources
IAP=Internal Audit Procedural
IARL=Internal Audit Relationship

4.6 Measurement Model Analysis

After evaluating the quality of the data, an intuitive descriptive statistical analysis of the designed variables was conducted. This section shows the PLS algorithm's calculation of the estimated values of the model parameters to verify whether the data expressed by the structural model support the subsequent hypothesis test. If the measurement model is not up to the quality criterion, then the subsequent estimation of the inner model may be biased.

The measurement model of this study is reflective, which has a causal relationship from the latent variable to the manifest variables. According to the verification guidelines from Lewis et al. (2005) and Urbach et al. (2010), the internal consistency reliability, indicator reliability, convergence validity, and discrimination validity of the reflective measurement model evaluated by applying the criterion.

4.6.1 Test of Reliability

Reliability is often used for measuring the consistency of the measurements involved in a model. Cronbach's alpha (CA) and composite reliability (CR) are adopted in this study to assess internal consistency reliability. The reason for the comprehensive evaluation of these two exponents is that Cronbach's alpha (CA) prefers to underestimate the internal consistency of the latent variables in the model because it is based on the assumption that each indicator is equivalent. By contrast, composite reliability (CR) can identify the different loadings of each indicator and thus provide a closer approximation of reliability.

Cronbach (1951) initiated the idea that the range of Cronbach's alpha is from 0 (completely unreliable) to 1 (perfectly reliable). According to the suggestion from Sarstedt et al. (2017), the reliability is considered satisfactory when Cronbach's alpha is higher than 0.700 and the values must not be lower than 0.600. The criterion applies to the rho_A (Kuder–Richardson formula) as being identical.

Meanwhile, Cronbach's alpha, an alternative to composite reliability, agrees that the weights of indicators are not equal. Composite reliability ranges from 0 (totally unreliable) to 1 (totally reliable). According to the suggestions of Werts et al. (1974) and Nunally and Bernstein (1994), when Cronbach's α value is higher than 0.700 and the value must not be lower than 0.600, then the composite reliability is considered satisfactory. The internal consistency and reliability results of the measurement model in this study are presented in Table 4.4. All the structures are found to be satisfactory and reliable. The composite reliability exceeds the threshold of 0.700, indicating that all the structures are reliable (Chin, 1998; Hensel et al., 2009; Hair et al., 2016). An

analysis of reliability and convergence validity is performed to measure the reliability and stability of the scale. The α coefficient proposed by Cronbach (1951) is used for measuring the consistency of items. When α value is more significant than 0.7, then the results of each item in the questionnaire tend to be consistent; that is, the higher the reliability of the questionnaire. Convergence validity refers to the similarity of measurement results when different measurement methods are used for measuring the same feature; that is, different measurement methods should be aggregated in the measurement of the same feature. According to the convergence validity standard, the CR of variables is above 0.6, and the AVE is above 0.5 (Wu Minglong 2009).

As shown in Table 4.4, the Cronbach's α coefficient of each variable on this scale is more significant than 0.7. The Cronbach's α coefficient of the whole scale is between 0.915 and 0.938, which indicates that the measurement performance of each potential variable has good internal consistency and high reliability and is in accordance with the reliability standard of DeVellis. The combined reliability (CR) of each structure is more significant than 0.6, and the average variance of extraction (AVE) is more significant than 0.5. Therefore, this study supports the tests of reliability and convergence validity.

Table 4.4 Dimension Reliability and Validity

	Cronbach's Alpha	**rho_A**	**Composite reliability**	**AVE**
TFL	0.929	0.945	0.946	0.779
TSL	0.913	0.921	0.935	0.742
LFL	0.915	0.922	0.946	0.854
OIIA	0.928	0.932	0.940	0.636
MSIA	0.918	0.965	0.934	0.704
IARS	0.918	0.929	0.936	0.711

IAP	0.935	0.936	0.947	0.720
IARL	0.938	0.942	0.951	0.764

Note: TFL=Transformational Leadership Style
TSL=Transactional Leadership Style
LFL=Laissez-faire Leadership Style
OIIA=Organizational Independence of Internal Audit
MSIA=Management Support for Internal Audit
IARS=Internal Audit Resources
IAP=Internal Audit Procedural
IARL=Internal Audit Relationship

4.6.2 Discriminant Validity

The difference validity mainly tests whether the measurement items are related under different factors. Wu Minglong (2009) and Rong Tai Sheng (2014) indicate that the AVE root value of the variable is higher than the correlation coefficient of each variable, as per the standard energy response concept.

As presented in Table 4.5, the AVE root value of each variable is higher than the correlation coefficient of each variable. The scale has good discrimination judgement, indicating that the design of these topics has good discrimination. Therefore, this questionnaire survey can be continued.

Table 4.5 Fornell–Larcker Criterion

	TFL	TSL	LFL	OIIA	MSIA	IARS	IAP	IARL
TFL	0.882							
TSL	0.494	0.861						
LFL	0.285	0.360	0.924					
OIIA	0.452	0.488	0.320	0.798				
MSIA	0.561	0.461	0.328	0.401	0.839			

IARS	0.550	0.565	0.501	0.527	0.567	0.843		
IAP	0.498	0.516	0.367	0.445	0.483	0.611	0.848	
IARL	0.522	0.495	0.373	0.549	0.491	0.646	0.518	0.874

Note: TFL denotes transformational leadership style
TSL=Transactional Leadership Style
LFL=Laissez-faire Leadership Style
OIIA=Organizational Independence of Internal Audit
MSIA=Management Support for Internal Audit
IARS=Internal Audit Resources
IAP=Internal Audit Procedural
IARL=Internal Audit Relationship

4.6.3 Test of Discriminant Validity

Discriminant validity refers to the degree to which the indicators of different variables differ from each other. Discriminant validity is used for testing whether the indicator has unintentionally measured other variables. PLS algorithms typically utilise two metrics for evaluating the discriminant validity of the measurement model, which are, respectively, cross-loadings and the Fornell–Larcker criterion (Chin 1998).

The first metric, cross-loadings, was obtained by correlating the component scores of each latent variable with all the other indicators. The cross-loadings of the measurement model in this study are presented in Table 4.6. Each indicator's factor loading is greater for its designated variable than for any of the other variables, and each of the variable loads is higher with its assigned indicator than the others. The observed result indicates that the indicators in different variables are unintentionally measured in other variables; thus, the measurement model has discriminant validity according to the evaluation of cross-loadings.

As shown in the same table, the factor load of the item corresponding to each variable is

greater than 0.6, the dimension division is distinctive, and the items in the same dimension are consistent. Hence, the requirements are met, and the data have good validity.

Table 4.6 Cross-Loadings

	TFL	TSL	LFL	OIIA	MSIA	IARS	IAP	IARL
TFL1	0.915							
TFL2	0.891							
TFL3	0.899							
TFL4	0.908							
TFL5	0.794							
TSL1		0.836						
TSL2		0.869						
TSL3		0.848						
TSL4		0.876						
TSL5		0.876						
LFL1			0.948					
LFL2			0.931					
LFL3			0.892					
OIIA1				0.839				
OIIA2				0.824				
OIIA3				0.847				
OIIA4				0.787				
OIIA5				0.844				
OIIA6				0.842				

OIIA7			0.763			
OIIA8			0.714			
OIIA9			0.702			
MSIA1				0.869		
MSIA2				0.903		
MSIA3				0.893		
MSIA4				0.779		
MSIA5				0.856		
MSIA6				0.719		
IARS1					0.877	
IARS2					0.866	
IARS3					0.899	
IARS4					0.772	
IARS5					0.758	
IAP1						0.848
IAP2						0.808
IAP3						0.853
IAP4						0.880
IAP5						0.843
IAP6						0.863
IAP7						0.842
IARL1						0.884
IARL2						0.906
IARL3						0.823
IARL4						0.903

IARL5								0.863
IARL6								0.863

Note: TFL=Transformational Leadership Style
TSL=Transactional Leadership Style
LFL=Laissez-faire Leadership Style
OIIA=Organizational Independence of Internal Audit
MSIA=Management Support for Internal Audit
IARS=Internal Audit Resources
IAP=Internal Audit Procedural
IARL=Internal Audit Relationship

4.6.4 Test of The Heterotrait–monotrait Ratio of Correlations

The test of cross-loadings or the Fornell–Larcker criterion is a type of traditional discriminant assessment measure; however, an unavoidable aspect is that the traditional measures are considered to have low sensitivity when assessing discriminant validity (Henseler et al., 2015). One of the popular tests for discriminant validity is the use of the heterotrait-monotrait ratio of correlations (HTMT).

HTMT is a new approach for estimating the correlation between the variable constructs. The HTMT neither requires a factor loading test nor a calculation of construct scores. Furthermore, based on the available measures and data, HTMT does not require testing the same theoretical concept with alternative measurement in the meantime, which is contrary to the traditional measure. Due to the HTMT criteria based on a comparison of the heterotrait-heteromethod correlations and the monotrait-heteromethod correlations, which can effectively identify a lack of discriminant validity due to their high sensitivity rates (Henseler et al., 2015).

An HTMT value that is clearly smaller than 1.00 generally indicates that the true correlation between the two variable constructs is most likely different from each other. This can be explained as having discriminatory validity. The closer the value to 1.000,

the more likely the variable constructs will lack discriminant validity (Henseler et al., 2015).

Currently, the most commonly used thresholds for HTMT are HTMT0.85 and HTMT0.90. HTMT0.90 generally has a higher specificity rate than HTMT0.85; thus, HTMT0.90 is used in this study as the threshold of discriminant validity.

As shown in Table 4.7, the HTMT value between each latent variable is less than 0.85, which meets the threshold judgement standard, indicating that it has good discriminant validity and can lay a data foundation for the next research.

Table 4.7 HTMT

	TFL	TSL	LFL	OIIA	MSIA	IARS	IAP	IARL
TFL								
TSL	**0.523**							
LFL	0.298	**0.386**						
OIIA	0.471	0.522	**0.348**					
MSIA	0.575	0.463	0.338	**0.403**				
IARS	0.577	0.605	0.542	0.559	**0.570**			
IAP	0.520	0.551	0.394	0.477	0.479	**0.654**		
IARL	0.541	0.528	0.399	0.585	0.481	0.682	**0.550**	

Note: TFL=Transformational Leadership Style
TSL=Transactional Leadership Style
LFL=Laissez-faire Leadership Style
OIIA=Organizational Independence of Internal Audit
MSIA=Management Support for Internal Audit
IARS=Internal Audit Resources
IAP=Internal Audit Procedural
IARL=Internal Audit Relationship

4.6.5 Assessment of The Linearity

Collinearity refers to high correlations between two constructs; meanwhile, multicollinearity ensues when more than two indicators are involved. Collinearity increases the standard error, thereby reducing the ability to explain the significant difference between the estimated weight and zero. This problem especially occurs in the PLS-SEM analysis with a small sample size and would reduce the accuracy of the measurement model. Collinearity will also cause the corresponding weight to be incorrectly estimated.

In this study, collinearity was tested by separately examining the sets of predictor constructs to verify any critical levels of collinearity between each block of predictor variables.

The variance inflation factor (VIF) is typically used for measuring the collinearity issue. A VIF value of 5 or higher demonstrates a potential collinearity problem in the PLS algorithm (Hair et al., 2011). The results of the VIF test are shown in Table 4.7. The VIF value of each variable is between 1 and 2, which does not exceed 5, thus indicating the absence of a collinearity problem in this structural model.

Table 4.8 Test of the Inner VIF Values

Variable	VIF
TFL	1.698
TSL	1.609
LFL	1.219
OIIA	1.47

MSIA	1.617

Note: TFL=Transformational Leadership Style
TSL=Transactional Leadership Style
LFL=Laissez-faire Leadership Style
OIIA=Organizational Independence of Internal Audit
MSIA=Management Support for Internal Audit

4.7 Hypothesis Testing

The hypotheses in the model were tested by estimating the value of the path coefficient, including its algebraic sign and its magnitude, obtained from the PLS-SEM algorithm. The path coefficient represents the hypothesised relationships between the constructs in the structural models. The criterion threshold of the path coefficient is between –1 and +1. The closer the path coefficient is to +1, the stronger is the positive correlation; the closer the path coefficient is to -1, the stronger is the negative correlation. When the path coefficient is close to 0, the relationship is weaker.

In addition, the significance of the path coefficient depends on the standard error. In this study, the strictest error criteria were used when running the PLS-SEM bootstrapping, assuming a significance level of 1% ($p < 0.01$) or a significance level of 5% ($p < 0.05$) to allow for conducting a more rigorous test on the hypothesis relationship.

Hypothesis 1: **There is a positive relationship between transformational leadership style and IA effectiveness.**

Sub-hypotheses:

H1a: There is a positive relationship between the CAE's transformational leadership style and the resources dimension of IA effectiveness.

As illustrated in Figure 4.1, TFL has a significant positive correlation with IARS at the 1% significance level, and the coefficient of this path is 0.003. Therefore, Hypothesis 1a

is supported. The results reveal that TFL significantly affects IARS, indicating that a better TFL can create a positive working environment for auditors and provide them with a good IARS.
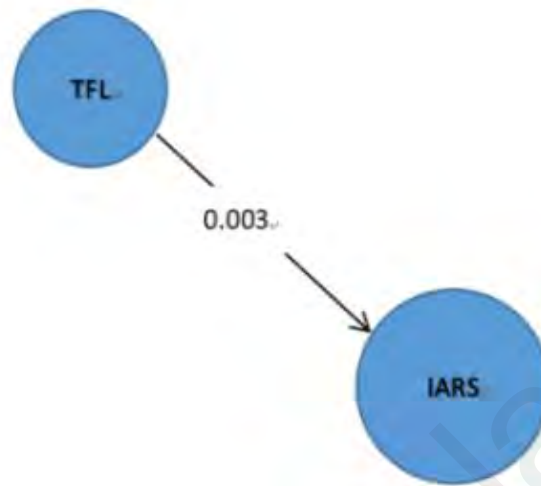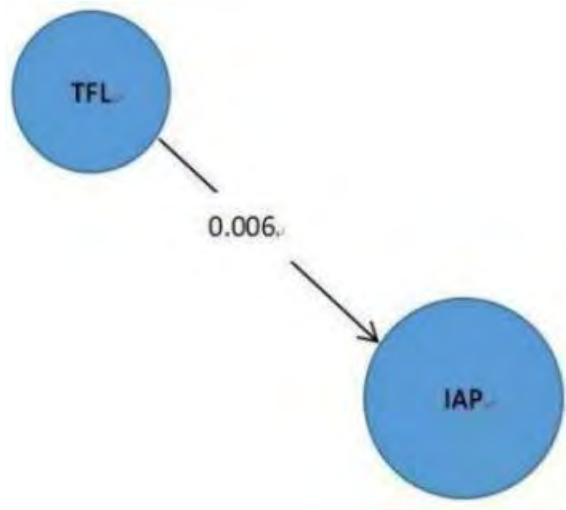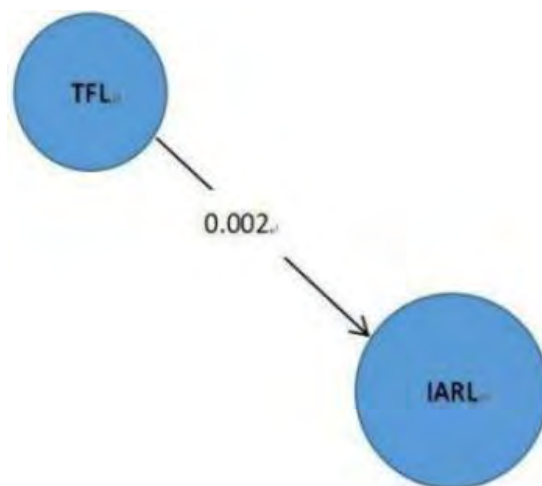

Figure 4.1 Relationship Between TFL and IARS

H1b: There is a positive relationship between the CAE's transformational leadership style and the procedural dimension of IA effectiveness.

As shown in Figure 4.2, TFL has a significant positive correlation with IAP at the 1% significance level, and the coefficient of this path is 0.003. Therefore, Hypothesis 1b is supported. The results reveal that TFL significantly affects IAP, suggesting that a better TFL can create a positive working environment for auditors and provide them with a good IAP.
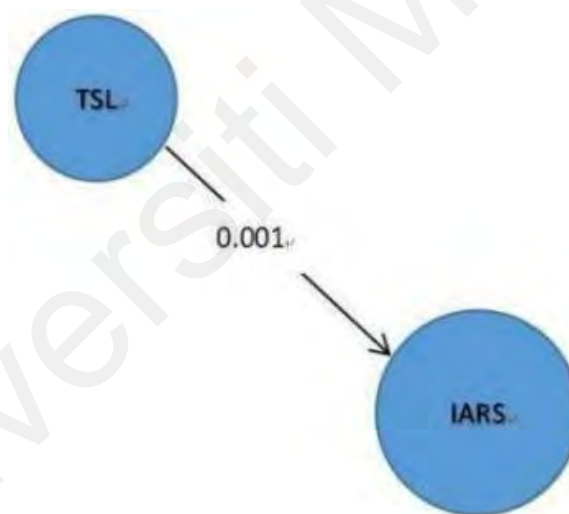
Figure 4.2 Relationship Between TFL and IAP

H1c: There is a positive relationship between the CAE's transformational leadership style and the relational dimension of IA effectiveness.

As depicted in Figure 4.3, TFL has a significant positive correlation with IARL at the 1% significance level, and the coefficient of this path is 0.002. Therefore, Hypothesis 1c is supported. The results denote that TFL significantly affects IARL, indicating that a better TFL can create a positive working environment for auditors and provide them with a good IARL.

Figure 4.3 Relationship Between TFL and IARL

Hypothesis 2: There is a positive relationship between the CAE's transactional leadership style and IA effectiveness.

Sub-hypotheses:

H2a: There is a positive relationship between the CAE's transactional leadership style and the resources dimension of IA effectiveness.

Figure 4.4 shows that TSL is positively correlated with IARS at the 1% significance level, and the coefficient of this path is 0.001. Therefore, Hypothesis 2a is supported. The results reveal that TSL has a significant impact on IARS, indicating that TSL will have a positive impact on IARS.

Figure 4.4 Relationship Between TSL and IARS

H2b: There is a positive relationship between the CAE's transactional leadership style and the procedural dimension of IA effectiveness.

Figure 4.5 shows that TSL is positively correlated with IAP at the 1% significance level, and the coefficient of this path is 0.000. Therefore, Hypothesis 2b is supported. The

results denote that TSL has a significant impact on IAP, suggesting that TSL will have a positive impact on IAP.
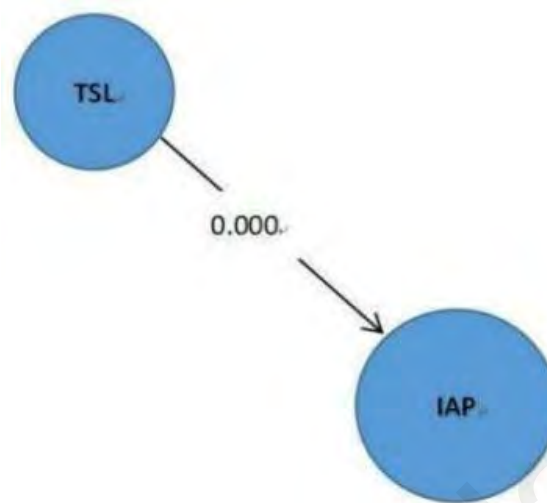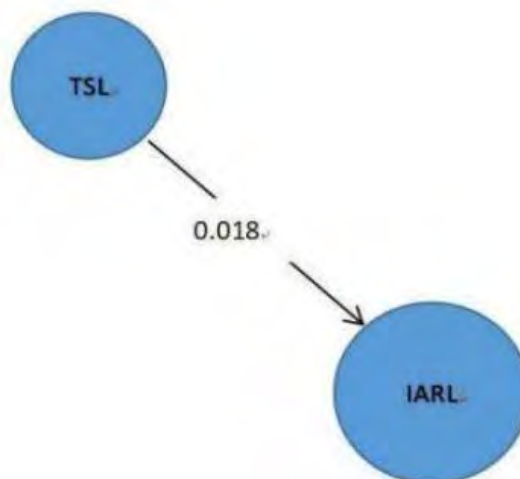

Figure 4.5 Relationship Between TSL and IAP

H2c: There is a positive relationship between the CAE's transactional leadership style and the relational dimension of IA effectiveness.

As illustrated in Figure 4.6, TSL is positively correlated with IARL at the 1% significance level, and the coefficient of this path is 0.018. Therefore, Hypothesis 2b is supported. The results reveal that TSL has a significant impact on IARL, indicating that TSL will have a positive impact on IARL.
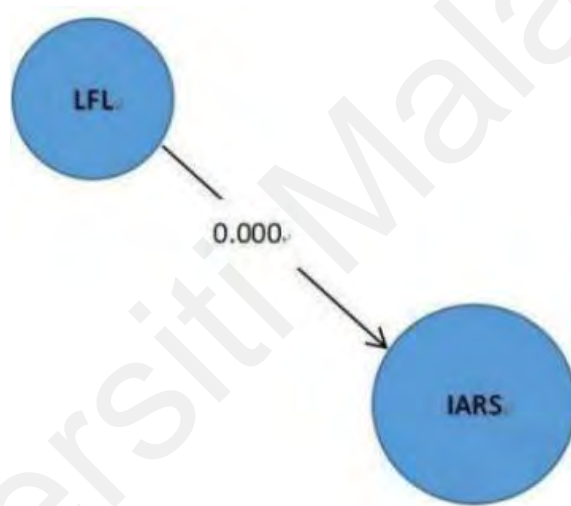

Figure 4.6 Relationship Between TSL and IARL

Hypothesis 3: There is a positive relationship between the CAE's laissez-faire leadership style and IA effectiveness.

Sub-hypotheses:

H3a: There is a positive relationship between the CAE's laissez-faire leadership style and the resources dimension of IA effectiveness.

As presented in Figure 4.7, LFL is positively correlated with IARS at the 1% significance level, and the coefficient of this path is 0.000. Therefore, Hypothesis 3b is supported. The results denote that LFL has a significant influence on IARS.

Figure 4.7 Relationship Between LFL and IARS

H3b: There is a positive relationship between the CAE's laissez-faire leadership style and the procedural dimension of IA effectiveness.

Figure 4.8 shows that LFL is positively correlated with IAP at the 1% significance level, and the coefficient of this path is 0.000. Therefore, Hypothesis 3c is supported. The results reveal that LFL has a significant influence on IAP.
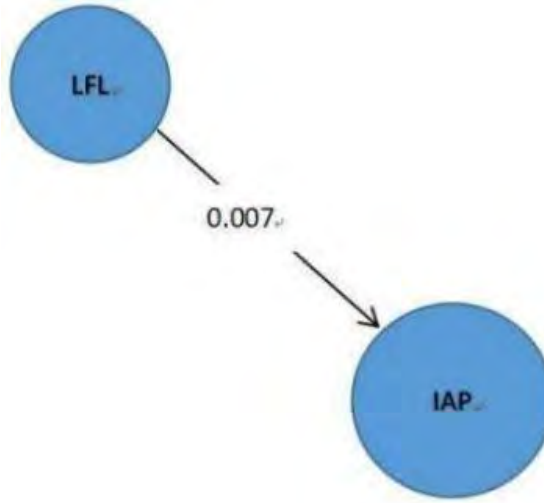
Figure 4.8 Relationship Between LFL and IAP

H3c: There is a positive relationship between the CAEs' laissez-faire leadership style and the relational dimension of IA effectiveness.

Figure 4.9 shows that LFL is positively correlated with IARL at the 1% significance level, and the coefficient of this path is 0.000. Therefore, Hypothesis 3a is supported of. The results suggest that LFL has a significant influence on IARL.
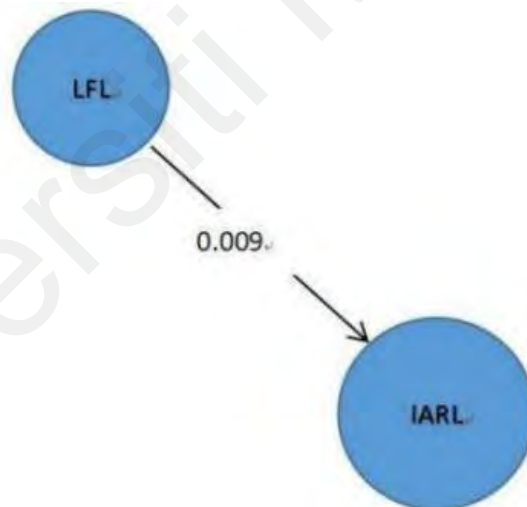

Figure 4.9 Relationship Between LFL and IARL

Hypothesis 4: There is a positive relationship between organisational independence and internal audit effectiveness.

Sub-hypotheses:

H4a: There is a positive relationship between the organisational independence of

internal audit and the resources dimension of IA effectiveness.

As presented in Figure 4.10, OIIA is positively correlated with IARS at the 1% significance level, and the coefficient of this path is 0.001. Therefore, Hypothesis 4a is supported. The results show that OIIA has a significant impact on IARS, indicating that OIIA will have a positive impact on IARS.
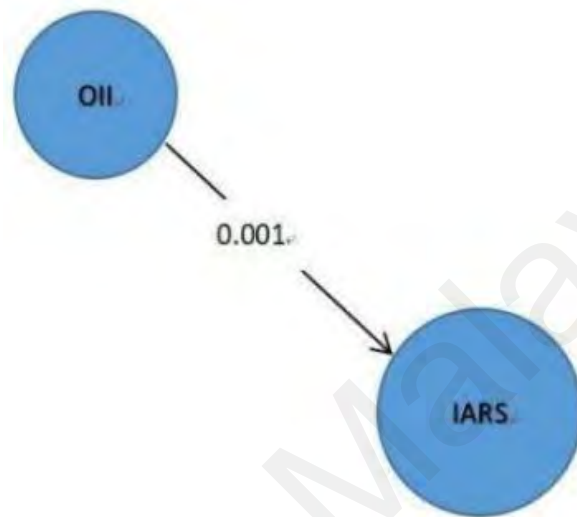

Figure 4.10 Relationship Between OIIA and IARS

H4b: There is a positive relationship between the organisational independence of internal audit and the procedural dimension of IA effectiveness.

Figure 4.11 illustrates that OIIA is positively correlated with IAP at the 1% significance level, and the coefficient of this path is 0.010. Therefore, Hypothesis 4b is supported. The results show that OIIA has a significant impact on IAP, suggesting that OIIA will have a positive impact on IAP.
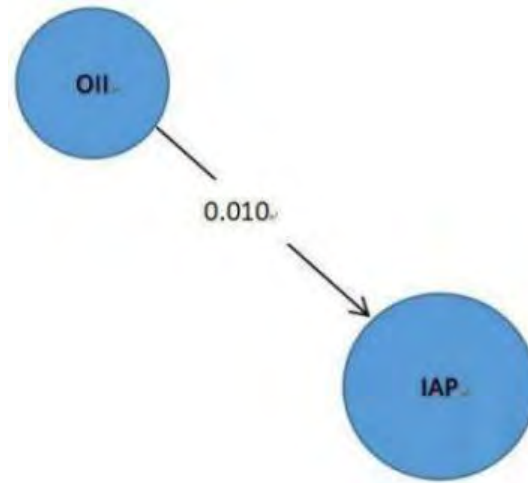
Figure 4.11 Relationship Between OIIA and IAP

H4c: There is a positive relationship between the organisational independence of internal audit and the relational dimension of IA effectiveness.

Figure 4.12 shows that OIIA is positively correlated with IARL at the 1% significance level, and the coefficient of this path is 0.000. Therefore, Hypothesis 4c is supported. The results reveal that OIIA has a significant impact on IARL, indicating that OIIA will have a positive impact on IARL.
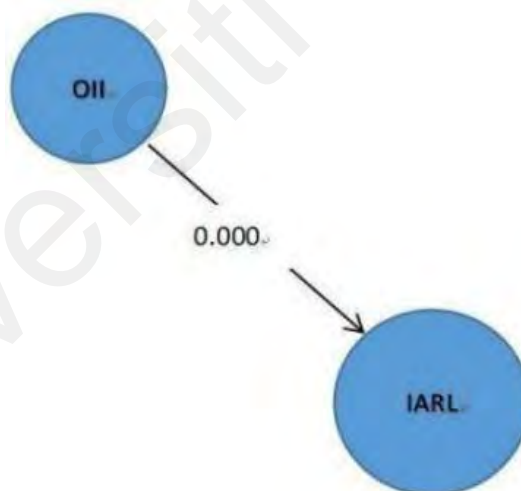

Figure 4.12 Relationship Between OIIA and IARL

Hypothesis 5: There is a positive relationship between management support for internal audit and IA effectiveness.

Sub-hypotheses:

H5a: There is a positive relationship between management support for internal audit and the resources dimension of IA effectiveness.

As shown in Figure 4.13, MSIA is positively correlated with IARS at the 1% significance level, and the coefficient of this path is 0.000. Therefore, Hypothesis 5a is supported. The results denote that MSIA has a significant impact on IARS, indicating that MSIA will have a positive impact on IARS.
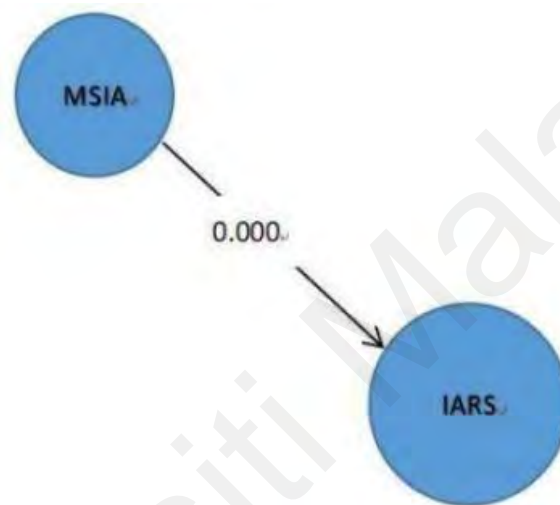

Figure 4.13 Relationship Between MSIA and IARS

H5b: There is a positive relationship between management support for internal audit and the procedural dimension of IA effectiveness.

Figure 4.14 shows that MSIA is positively correlated with IARS at the 1% significance level, and the coefficient of this path is 0.000. Therefore, Hypothesis 5b is supported. The results reveal that MSIA has a significant impact on IARS, suggesting that MSIA will have a positive impact on IARS.

Figure 4.14 Relationship Between MSIA and IAP

H5c: There is a positive relationship between management support for internal audit and the relational dimension of IA effectiveness.

Figure 4.15 shows that MSIA is positively correlated with IARS at the 1% significance level, and the coefficient of this path is 0.000. Therefore, Hypothesis 5c is supported. The results reveal that MSIA has a significant impact on IARS, suggesting that MSIA will have a positive impact on IARS.
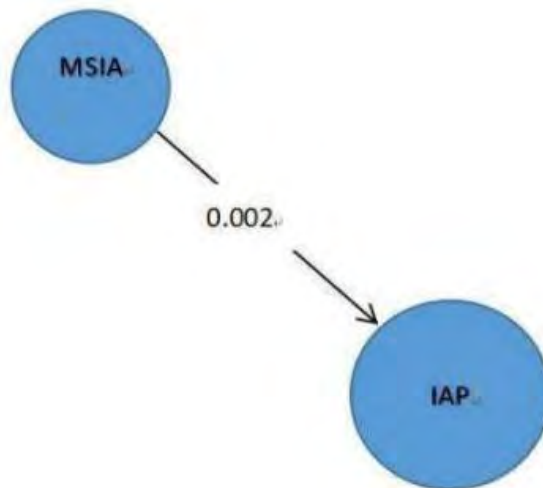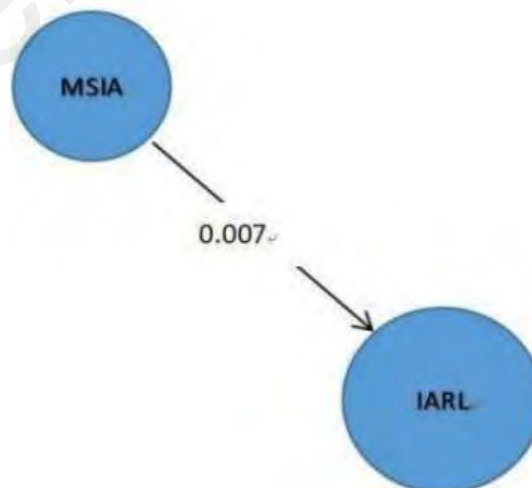

Figure 4.15 Relationship Between MSIA and IARL

4.8 Evaluation of the Predictive Power of the Structural Model with R^2

In addition to examining the hypotheses of the structural model, this study measured the predictive power of structural models using the most common method of coefficient of determination (R^2). R^2 is the relationship between each latent variable and its total variance. In other words, R^2 represents the relationship between the variance of each independent variable and the variance of the dependent variable. This value should be high enough to indicate that the overall structural model has minimal explanatory power; that is, all the independent variables in the model are sufficiently correlated with the dependent variables.

The threshold of R^2 is between 0 and 1. The higher the value of r, the higher the prediction ability and accuracy of the structural model. Table 4.9 shows that the R^2 value of the structural model of TFL is 0.655, that of TSL is 0.404, that of LFL is 0.655, that of OIIA is 0.657, and that of MSIA is 0.677. The results reveal that the structural model can effectively explain the purpose of this research.

Table 4.9 Predictive Power of the Structural Model (R^2)

	R^2	Adjusted R^2
TFL	0.655	0.547
TSL	0.404	0.393
LFL	0.655	0.445
OIIA	0.657	0.645
MSIA	0.677	0.653

Note: TFL=Transformational Leadership Style
TSL=Transactional Leadership Style
LFL=Laissez-faire Leadership Style
OIIA=Organizational Independence of Internal Audit
MSIA=Management Support for Internal Audit

4.9 Evaluation of the Effect Size of Each Path (f²)

In addition to the use of R^2 for evaluating the predictive ability of structural models, this study utilised f² to further measure the accuracy of model predictive ability. The effect size is used for measuring the impact of each independent variable on the dependent variable.

This value should be high enough to indicate that each path has a sufficient effect on the dependent variable. The effect size f² of each path is presented in Table 4.10. Referring to the f² criterion (Cohen,1988; Chin, 1998b) in Table 4.10, TSL and OIIA are deemed to have a medium effect size for IARS, MSIA and TSL have a medium effect size for IAP, and TFL has a medium effect size for IARL.

Table 4.10 Effect Size of Each Path (f²)

Path	f²
TFL→IARS	0.139*
TSL→IARS	0.155**
LFL→IARS	0.122*
OIIA→IARS	0.151**
MSIA→IARS	0.17**
TFL→IAP	0.135*
TSL→IAP	0.155**
LFL→IAP	0.123*
OIIA→IAP	0.122*
MSIA→IAP	0.131*
TFL→IARL	0.142**
TSL→IARL	0.122*

LFL→IARL	0.100*
OIIA→IARL	0.104*
MSIA→IARL	0.129*

* small effect size
** medium effect size
Note: TFL=Transformational Leadership Style
TSL=Transactional Leadership Style
LFL=Laissez-faire Leadership Style
OIIA=Organizational Independence of Internal Audit
MSIA=Management Support for Internal Audit
IARS=Internal Audit Resources
IAP=Internal Audit Procedural
IARL=Internal Audit Relationship

4.10 Evaluation of Predictive Relevance (Q^2)

A nonparametric Stone–Geisser test (Geisser 1975; Stone 1974) was adopted in the current study to evaluate the predictive relevance of the structural model. Q^2 assesses the extent to which the prediction is successful. Q^2 should be greater than zero to confirm predictive relevance. In other words, the higher the predictive relevance of the structural model, the greater Q^2 would be (Fornell and Cha 1994).

Q^2 was calculated by creating estimates of residual variances with the blindfolding procedure of PLS-SEM. The omitted values were created by assuming that a certain number of cases were missing from the sample data. A higher omission distance D between 5 and 10 should be used, and the sample size divided by D is not an integer (Hair, 2016). Accordingly, the present study adopted an omission distance equal to 8, and the Q^2 was calculated (see Table 4.11).

Table 4.11 Predictive Relevance(Q^2)

	SSO	SSE	Q^2 (=1-SSE/SSO)
TFL	1365	616.755	0.548
TSL	1365	711.476	0.579
LFL	819	391.266	0.522

OIIA	2457	1341.988	0.554
MSIA	1638	815.268	0.502
IARS	1638	831.955	0.592
IAP	1911	948.594	0.504
IARL	1638	755.917	0.539

Note: TFL=Transformational Leadership Style
TSL=Transactional Leadership Style
LFL=Laissez-faire Leadership Style
OIIA=Organizational Independence of Internal Audit
MSIA=Management Support for Internal Audit
IARS=Internal Audit Resources
IAP=Internal Audit Procedural
IARL=Internal Audit Relationship

4.11 Results of The Hypothesis Testing

Table 4.12 reports the PLS-SEM's descriptive statistical analysis of the interviewed auditors and the three types of participation in IA effectiveness. The hypotheses proposed in this study are subsequently tested by the partial least squares structural equation model. This study provides empirical evidence for the relationship between several factors, including the CAE's leadership style, IA independence, and management support factors, which may affect the effectiveness of the auditors' IA in China. The results of the hypothesis testing are summarised in Table 4.12 Fifteen hypotheses were tested, all of which were supported by data analysis.

Table 4.12 Path Coefficient

	Initial Sample (O)	Sample mean (M）	STDEV	T (|O/STDEV|）	P
H1a:TFL→IARS	0.173	0.174	0.058	2.962	0.003
H1b:TFL→IAP	0.14	0.137	0.059	2.37	0.018
H1c:TFL→IARL	0.137	0.14	0.053	2.589	0.010
H2a:TSL→IARS	0.188	0.186	0.068	2.748	0.006
H2b:TSL→IAP	0.249	0.248	0.049	5.037	0.000
H2c:TSL→IARL	0.289	0.288	0.058	5.009	0.000
H3a:LFL→IARS	0.197	0.202	0.064	3.104	0.002
H3b:LFL→IAP	0.13	0.134	0.048	2.708	0.007
H3c:LFL→IARL	0.224	0.228	0.06	3.73	0.000
H4a:OIIA→IARS	0.198	0.197	0.06	3.305	0.001

H4b:OIIA→IAP	0.121	0.119	0.046	2.632	0.009
H4c:OIIA→IARL	0.174	0.171	0.057	3.051	0.002
H5a:MSIA→IARS	0.229	0.228	0.06	3.809	0.000
H5b:MSIA→IAP	0.183	0.18	0.053	3.473	0.001
H5c:MSIA→IARL	0.161	0.162	0.059	2.72	0.007

Note: TFL=Transformational Leadership Style
TSL=Transactional Leadership Style
LFL=Laissez-faire Leadership Style
OIIA=Organizational Independence of Internal Audit
MSIA=Management Support for Internal Audit
IARS=Internal Audit Resources
IAP=Internal Audit Procedural
IARL=Internal Audit Relationship

4.12 Results

Table 4.2 provides the demographic information about the respondents. All of the respondents (100%) are internal auditors from China, of whom 52.4% are male. Most of the respondents are between 25 and 35 years old, accounting for 33.4% of the total number of participants, and their working experience is mainly between 1 and 10 years. This mode may not be completely unexpected in the internal audit department of a developing country; however, it may indicate a relative lack of experience among the respondents. Furthermore, 46.2% of the respondents have a Master's degree. Assistant IA managers constituted up to 35.5% of the total number of respondents, followed by audit supervisors and IA managers. The sample selection was in line with the fact that all the interviewees perform IA functions.

Table 4.3 provides the descriptive statistics for the research variables. The average score exceeds the midpoint of Grades 1–7, in which (1) is the degree to which respondents strongly object and (7) the degree to which respondents strongly agree. Concerning function and effectiveness, the results show that the IA function of listed companies in China still tends to lean toward the traditional method, and the internal audit resources require improvement, with the lowest score being 3.7075. These findings support the view of Alzeban and Sawan (2013), who argue that the role of IA does not extend

beyond the traditional financial compliance audit. The study also provides evidence that, although the audit committee exists and is considered to play a role in listed companies, the organisational support provided is low.

Cronbach's alpha value is calculated to determine the maximum correlation between items and the minimum correlation with other variables (see Table 4.4). The first variable, CAE leadership style, includes three items, and the reliability values are TFL0.929, TSL0.913, and LFL0.915 (Cronbach's alpha). The second variable, OIIA, describes the independence of internal audit (Cronbach's alpha: 0.928). The third variable is management support (MSIA), and the alpha value of Cronbach is 0.918. Three variables are included in the effectiveness of IA: IARS (Cronbach's alpha: 0.918), IAP (Cronbach's alpha: 0.935), and IARL (Cronbach's alpha: 0.938).

The correlation results of dependent variables and independent variables are presented in Table 4.5. IAE is positively correlated with five variables, which confirms that the survey questions used in this paper are characterised by good discrimination. In addition, through the cross-loadings model, the project coefficients corresponding to each variable are observed to be all greater than 0.6 (see Table 4.6). In the HTMT experiment (refer to Table 4.7), the HTMT values between the potential variables in this study are all less than 0.85, which meets the threshold judgement standard, indicating that it has good discriminant validity. In summary, the questionnaire used in this study has a good symbolic role in analysing the effectiveness of internal audit.

This experiment is typically used for measuring the variance expansion factor (VIF) of collinearity problems. In this test, the VIF values are between 1 and 2. The results show that the maximum VIF value of each variable in this test is 1.698, which does not

exceed 5, indicating the lack of collinearity problems in this structural model.

The hypothesis testing is explained in Section 4.7 The entire model is significant at $p <$ 0.05, and each variable is analysed in Figures 4.1–4.15, such as the detailed analysis data of the path coefficient in Table 4.13. The data all show that the analysis results have a significant positive impact, thus verifying hypotheses H1a, H1b, H1c, H2a, H2b, H2c, H3a, H3b, H3c, H4a, and H4b.

For the regression results of Table 4.9, the adjusted r is tflis 0.655, that of tslis 0.404 and that of lflis 0.655, that of OIIA is 0.657, and that of MSIA is 0.677. The results indicate that the structural model can effectively explain the purpose of this research. The effect size f² of each path is listed in Table 4.10. Referring to the f² criterion (Cohen,1988; Chin, 1998b) in Table 4.10, TSL and OIIA are observed to have a medium effect size for IARS, MSIA and TSL have a medium effect size for IAP, and TFL has a medium effect size for IARL. For Table 4.11, q is calculated by conducting a residual variance estimation through the blind programme of PLS-SEM. From the data analysis results, q is greater than zero, which proves that the problems are related.

The preceding analysis repeats the basic analysis by using the internal auditor's view of IAE as the dependent variable. These results similarly show a positive correlation between IAE and all five independent variables. Furthermore, the survey results emphasise the importance of IAE management support. The analysis also tests the internal auditor's measurement of effectiveness. Overall, the research results indicate that the factors investigated affect IAE. These results support the findings of Alzeban (2013), Dalmas and Barak (2018), and Lenz (2013).

Table 4.13 The Summary Results of The Hypotheses Testing

Hypotheses	P-value	Support/Reject
H1a:TFL→IARS	0.003	supported
H1b:TFL→IAP	0.018	supported
H1c:TFL→IARL	0.01	supported
H2a:TSL→IARS	0.006	supported
H2b:TSL→IAP	0	supported
H2c:TSL→IARL	0	supported
H3a:LFL→IARS	0.002	supported
H3b:LFL→IAP	0.007	supported
H3c:LFL→IARL	0	supported
H4a:OIIA→IARS	0.001	supported
H4b:OIIA→IAP	0.009	supported
H4c:OIIA→IARL	0.002	supported
H5a:MSIA→IARS	0	supported
H5b:MSIA→IAP	0.001	supported
H5c:MSIA→IARL	0.007	supported

P<0.01 Significance level=1%
Note: TFL=Transformational Leadership Style
TSL=Transactional Leadership Style
LFL=Laissez-faire Leadership Style
OIIA=Organizational Independence of Internal Audit
MSIA=Management Support for Internal Audit
IARS=Internal Audit Resources
IAP=Internal Audit Procedural
IARL=Internal Audit Relationship

4.13 Discussion of Findings

4.13.1 CAE's Leadership Style

This study provides some important findings on factors that may affect IA effectiveness.

The study reveals that different CAE leadership styles will result in different levels of

internal audit effectiveness. In recent years, many studies have shown that the factors affecting audit quality in China have attracted widespread attention. For instance, in their research on the leadership styles of CAEs in South Africa, Dal Mas and Barac (2018) have indicated that different CAE leadership styles may be an important factor affecting audit quality. The three constructs of audit effectiveness factors are selected in the current study to examine the IA effectiveness in China. The three types of IA effectiveness are as follows:

1) IA resources

2) IA procedural

3) IA relationship

4.13.1.1 Transformational Leadership And Internal Auditing Effectiveness Dimensions

The results of the analysis of transformational leadership and internal audit effectiveness dimensions show a statistically significant relationship ($p < 0.001$) between the transformational leadership structure and the IA effectiveness dimension. The results suggest that the CAE's leadership style affects those factors related to IA effectiveness, and by ignoring the role of the CAE (Lenz, 2013), the view of IA effectiveness is narrowed (Dal Mas & Barac 2018). From an IA perspective, the CAE as a transformational leader is responsible for communicating IA effectiveness as the vision of IA, motivating team members to work toward that vision and align their efforts accordingly, and urging IA to care about IA employees and engage them on an emotional level.

This study supports the notion that the transformational leadership style is significantly associated with the employees' commitment to change. The findings indicate that this

leadership style has a positive and significant relationship with the followers' organisational commitment compared to transactional leadership. This level of commitment affects the motivation of internal auditors, which in turn affects IA effectiveness.

However, the results of this study show that transformational leadership is significantly related to IA effectiveness, indicating that TFL is significantly positively correlated with IARS, IAP, and ARL at the 1% significance level. Therefore, transformational leadership is significantly and positively related to IA effectiveness. This finding suggests that improved transformational leadership will directly improve IA effectiveness. The relationship between transaction leadership and supply chain performance is also significantly positive.

According to the results of the descriptive analysis, the average and median are closer to 5 (agree), which shows that more than half of the respondents in the transformational leadership style stated that the chief auditor makes the IA work well. More than 70% of the respondents believed that "the CAE often makes the internal auditor feel good around him/her", "internal auditors are proud to work with the CAE", and "the CAE provides information on what internal auditors can do". More than 50% of the respondents indicated that they often "completely trust the CAE" and "the CAE can express exactly what needs to be done". This viewpoint is consistent with the perspective of Dal Mas and Barac (2018): if the CAE exhibits a transformational leadership style, then the quality of IA will be significantly improved. Although the CAE's participation does not mean that the effectiveness of internal audit has improved, every time it happens, IA is more likely to be effective. Especially compared to the laissez-faire leadership style, internal auditors are more likely to participate in internal

audits under the influence of the CAE.

4.13.1.2 Transactional Leadership And Internal Auditing Effectiveness Dimensions

As indicated by leadership theory, transactional leadership is fundamental to transformational leadership (Wang et al., 2011). As transactional leaders, CAEs define expectations for IA effectiveness, establish rewards for meeting those expectations, and use IA effectiveness as a basis for taking corrective action (Judge and Piccolo, 2004). Scholars agree that leadership creates a crucial link between organisational effectiveness and individual performance (Jing and Avery, 2008). Our findings show this link for factors associated with IA effectiveness. According to the results of the descriptive analysis, the average and median are closer to 5 (agree), which indicates that more than half of the respondents in the transactional leadership style stated that the chief auditor makes IA more active. Of the survey items, "The CAE calls attention to what the internal auditors can get for what they have accomplished" scored the highest across the survey, which can be explained in the context of this study. Internal audit in China is regulated by the Listed Company Regulatory Commission, which requires an effective and efficient IA. Within the listed companies in China, departments often appoint a prestigious CAE to manage the IA department. In this survey, if CAEs tend to choose a more aggressive approach, making internal auditors work harder to complete the audit work as thoroughly and flawlessly as possible and clearly indicating the benefits that can be obtained after completing the work, the IA division has adopted a more active attitude to complete the audit work. More than 60% of the staff believe that "if the CAE tells the internal auditor what they should do if they want to be rewarded for their work" will have a positive impact on the work, and the CAE will clarify the achievements that the internal auditor can achieve and provide information on the internal guidance on what auditors can do. According to Dal Mas and Barac (2018), such behaviours have a

significant impact on the effectiveness of IA functions; for IA to be more effective, the value proposition of IA must be justified.

Studies have found that transactional leadership ensures that behaviour is centred in the process of giving and receiving, with leaders rewarding or punishing subordinates based on their efforts and performances (Burns, 1978). Transactional leaders are sometimes viewed as leaders who are focused on accomplishing tasks and fulfilling expectations, but they often pay little attention to the needs of the organisation. The results of the questionnaire reveal that transactional leaders have three characteristics. First, transactional leaders collaborate with followers and work toward achieving goals. Second, transactional leaders trade these rewards for hard work. Finally, transactional leaders are sensitive to the self-interest of followers. Transactional leadership also involves transactions or exchanges, which are an essential element between leaders and subordinates.

Transactional leadership includes behaviours such as monitoring performance, providing contingent material rewards, and bestowing contingent personal rewards to ensure that tasks are completed as expected (Bass, 1985). In my research, I found some controversy over the fact that to effect effective organisational change, leaders need more than charisma; they must also exhibit transactional behaviours such as clarifying goals, developing performance measures, and enforcing rewards and punishments. Thus, transactional leadership is closely related to the concept of communication between leaders and followers.

In conclusion, the specific characteristics of the transactional leadership style can create positive attitudes among employees, which in turn lead to effective organisational

change leadership. It is an important factor for the growth and survival of the organisation; thus, we need to find leaders who can motivate employees to accept repeated changes in the organisation. This study also confirms this viewpoint, using transactional leadership style as an independent variable to examine its impact on the IA work of employees. Therefore, this discussion clearly underscores that transactional leadership affects internal auditor performance and, in turn, IA quality. This inference confirms H2.

4.13.1.3 Laissez-faire Leadership And Internal Auditing Effectiveness Dimensions

Bass's (1985) conceptualisation of leadership treats transformational leadership and transactional leadership as separate concepts, and good leaders are both transactional and transformational. The current research supports this idea by showing that both the transformational and transactional aspects of CAE leadership influence the factors associated with IA effectiveness. Meanwhile, laissez-faire leadership behaviours are identified as destructive leadership behaviours (Skogstad et al., 2007), and leaders who score high in the laissez-faire leadership style will not only hesitate to act but also avoid making decisions (Hargis et al., 2011). Laissez-faire leadership is characterised by a "hands-off" approach (Skogstad et al., 2014). Furthermore, leaders with a laissez-faire style are often undecided when confronted with challenges, and such behaviour is in stark contrast to the Corporate Governance Standards for Listed Companies regulatory requirements (Zheng Jian Fa 2002). The Internal Auditing Framework for the Public Sector (RSA, 2009) also outlines a regulatory framework for establishing IAs in the public sector aimed at the IA's compliance with the aforementioned regulations and international professional practice frameworks, as well as the Committee of Sponsoring Organizations Framework for internal control and risk management (RSA, 2009). In addition, the CAE is accountable to (and must be accountable to) the Audit Committee

for the performance of IA-related duties and functions; the CAE is similarly accountable to executive management for the performance of other duties and administrative matters (IoDSA, 2016), consistent with IIA Standard 2060 (IIA, 2016).

The laissez-faire leadership style may cause the long-term deterioration of audit quality and potential industry risks. In this study, such leadership style had the lowest score in the survey, with an average descriptive analysis score of 3 (somewhat disagree). If the CAE asks the internal auditor to address all work in the same manner—whatever the internal auditor wants to do, the CAE views the act as irrelevant—then this approach will continually reduce the effectiveness of IA. The CAE will then entirely assign the work to the internal auditor; the CAE will subsequently ignore the completion of the work and refrain from evaluating the work results of the internal auditors. If the CAE avoids making a decision, does not exist, or generally does not make a decision when confronted with the need to make one, then such behaviours are tantamount to non-compliance with China's regulatory requirements for IA departments.

In summary, CAEs are accountable both in terms of regulation and oversight; in this environment of coercive and normative pressures (Lenz and Hahn, 2015), laissez-faire leadership does not appear to be an alternative that makes sense and is even achievable. Thus, our research disputes the traditional conceptualisations of leadership (i.e., transformational, transactional, or laissez-faire) by professional team leaders in regulated settings.

4.13.2 Organisational Independence And Internal Auditing Effectiveness Dimensions

The conclusion of this study is that the independence of internal audit—a factor consistent with resource-based theory—impacts the effectiveness of IA. IIA (2017) defines independence as a state that is unaffected by conditions that challenge the ability of the IA team to fairly perform tasks and responsibilities. The concept of independence requires internal auditors to honestly state their opinions without worrying about the threat to their position. If such challenges damage the audit process, then the competitive advantage of the organisation may be affected (Asiedu & Deffor 2017; D'Onza et al., 2015; Shohihah, Djamhuri & Purwanti 2018). According to Alzeban and Gwilliam (2014), independence is regarded as one of the key resources for supporting the effectiveness of IA. The application of resource-based theory in the current study shows that external independent factors can also produce competitive advantages by using the intangible resources of the organisation (Barney 1991). In addition, it also reflects the independence of IA, which provides some of the most important drivers of competitive advantage for organisations.

The survey results indicate that the managers and staff of internal audit units also have some positive views on the independence of the IA framework, although these views are not as positive as expected. However, previous research on IA in China and other developing countries has found that the view on the independence of IA is even lower. In this study, PLS-SEM analysis is used for measuring the correlation between internal audit independence (external independent variable) and IA effectiveness (dependent variable). The correlation coefficient shows a strong correlation between IA independence and IA effectiveness ($p < 0.01$; see Table 4.11). The analysis reveals that the independence of IA is statistically significant ($p < 0.01$). Therefore, the hypothesis is supported. The independence of IA is significantly related to the effectiveness of IA. Resource-based theory also supports this discovery. Additionally, this finding is

consistent with previous studies, which show that IA independence plays an important role in the IA effectiveness of public sector organisations in developing countries (Cohen & Sayag 2010; Salehi 2016; Shohihah, Djamhuri & Purwanti 2018).

The conclusion that can be derived from the results, findings, and discussions is that internal audit departments in China have a considerable opportunity for improvement, especially in the area of personnel management. The lack of skilled and competent internal auditors is critical, and this concern should be taken seriously by the National Audit Office of the People's Republic of China. As reported in a previous study (Gao Jing, 2014), this problem has been resolved for a long time. Without adequate and appropriate staffing, the quality and effectiveness of IA may be hindered. The overall level of IA capability also impacts the quality and effectiveness of IA. In addition, legislation or government policies that ensure the organisational independence of IA activities and the individual objectivity of internal auditors should be strengthened. The reason is that the independence of IA plays an essential role in determining the level of IA capability of public sector organisations.

Most importantly, the following elements need to be strengthened within the organisation: (i) organisational and individual accountability for results; (ii) professional culture; (iii) budgetary support to establish internal auditing as an independent activity with appropriate human resource capabilities; and (iv) an enabling environment for access to the information, assets, and personnel required to conduct the IA work. Overall, moving to the next level has some prerequisites, including a strong good governance structure; robust financial management, control, and accountability frameworks; support from a stable government; a good organisational culture; and the best CAE. In fact, the current research findings can help and guide organisations in

developing strategies and steps to improve reliable and effective IA capabilities.

The results show that the second hypothesis, that organisational independence has a positive effect on the effectiveness of IA, is accepted. The results of this study are consistent with the research of Cohen and Sayag (2010), demonstrating that organisational independence affects the effectiveness of internal auditing. The study by Badaruddin et al. (2016) also showed the same result. Alzeban and Gwilliam (2014), Badara (2015), Saleh (2015), Tackie et al. (2016), and Arles et al. (2017) found that independence has a positive impact on IA effectiveness.

The results of this study also support Daft's theory of contingency: things depend on other things, and for an organisation to be effective, a "goodness of fit" must exist between the design and various contingency factors. Organisational independence can enhance the effectiveness of internal auditing, which depends on certain conditions, including conflicts of interest, internal factors, and external factors (i.e., absence of intervention by the auditee).

4.13.3 Management Support And Internal Auditing Effectiveness Dimensions

This study uses smartPLS-SEM for testing the relationship between management support (independent variable) and IA effectiveness (dependent variable). As shown in Table 4.11, a strong correlation exists between the support of top management and the effectiveness of IA ($p < 0.01$). As expected, the assumption is supported, indicating that the support of management is significantly related to IA effectiveness. This discovery is also supported by resource-based theory. The current research is consistent with the previous studies on IA (Alzeban & Gwilliam 2014; Cohen & Sayag 2010; Drogaras, Caragiorgos & Arabatzis 2015; Salehi, 2016), all of which also identify the support of

top management as one of the key factors affecting IA effectiveness. For example, Cohen and Sayag (2010) reported a positive and significant relationship between management support and IA effectiveness and concluded that the degree of management support seriously affects IA success. Therefore, the results of the present study show that the support of top management is crucial to the effectiveness of IA in listed companies in China. According to resource-based theory, this study also reveals that top management can support the IA department by using the tangible and intangible resources of the organisation to improve IA effectiveness.

Our findings suggest that the factors investigated influence IA effectiveness and that without management support, IA is not independent enough and has limited scope and resources. Furthermore, the results of this study provide additional support for Al-Twaijry et al. (2003), who found that the interaction between internal auditors and top management is vital for determining the independence and objectivity of internal auditors. Therefore, we can argue that support from top management is the foundation of IAE. Top management support is important in itself, but it is also essential through links to resources, competencies and qualifications, independence, and relationships with external auditors. These findings are relative because they describe a link between management support and "better" internal auditing.

The results of this study are inconsistent with the study of Cohen and Sayag (2010), who argued that management's provision of support to employees at all levels related to the importance of the IA function would be beneficial for increasing the auditee's cooperation and supporting the auditing process. In this study, the presence of management support did not moderate the relationship between auditee perceptions and IA effectiveness. This finding is similar to that of Mihret and Yismau (2007), who

found that a lack of management support negatively impacts the IA function, thereby leading to poor attitudes toward the function by the auditee.

It is linked to resource-based theory: things depend on other things, and for an organisation to be effective, a "fit" must exist between design and various contingencies. Management support that can strengthen or weaken the auditee's perception of IA effectiveness has not been demonstrated.

Ideally, management support can increase the effectiveness of IA, as has been demonstrated in previous studies. In the present study, administrative support did not provide a moderating effect, which might be due to neutral management support. According to Tugiman (2000: 173), management support for the supervisory function can be active, passive, or neutral. Positive and negative support can be strong or weak, whereas administrative support is neutral. The present study found that the support provided was general, the standards were limited to rules, and the commitment of top management was not obtained.

Angel and Perry (1981) argued that from the auditor's perspective, strong organisational commitment encourages individuals to work harder to achieve organisational goals. Related to this opinion is the assumption that the auditor's organisational commitment remains low, such that any form of support from management cannot improve the auditor's performance in undertaking activities.

CHAPTER 5: CONCLUSION

5.1 Introduction

This chapter presents the answers to the research questions (RQ 1–RQ 3) outlined in Chapter 1 and provides a summary of and reflection on the research findings. The limitations of this study and recommendations for future research on internal audit effectiveness are also covered in this chapter.

5.2 Summary of Findings

The ultimate purpose of using questionnaires as a data collection method is to better understand and obtain more profound information on the factors that affect the independence of internal audits in China. In this study, the questionnaire was issued to rank the essential attributes that affect the effectiveness of auditors. The use of this data collection method provides valuable insights into actual practice and further clarification of factors that may impact the effectiveness of internal auditing. The answers to the RQs are presented below.

RQ 1: *Does the CAE's leadership style affect internal audit effectiveness?*

Most respondents defined the CAE's leadership style as an approach for "making unbiased audit decisions". In the conceptualisation of CAE leadership, transformational and transactional styles of leadership are regarded as independent concepts. Good leaders are both transactional and transformational. Our research supports this notion, as research shows that change and the transactional aspects of CAE leadership influence factors related to IA effectiveness. Bass's (1985) leadership theory concept has undergone several revisions since it was proposed; it currently includes three constructs: transformational leadership, transactional leadership, and non-leadership or laissez-faire dimensions. In our study, laissez-faire leadership behaviour was identified as disruptive

leadership behaviour because of avoidance or a lack of leadership effort. Leaders who scored high on the laissez-faire leadership measure were absent when needed, hesitated to act, and refrained from making decisions; such behaviours are contrary to the regulatory requirements under China's laws and regulations in the field of internal audit. The Public Company Internal Audit Framework also outlines the regulatory framework for establishing an IA in a public company. In summary, CAEs are held accountable in terms of regulations, and laissez-faire leadership is an approach other than a meaningful, or even an achievable, alternative for CAEs.

Against this background, CAEs warn against the limitations of laissez-faire leadership on the effectiveness of IA. CAEs should strive to be transformational and transactional leaders. Transformational leaders must serve as role models to motivate their IA teams, challenge them to high standards by delivering quality work, inspire and encourage creativity, and listen to and empathise with their individual needs and concerns. As transactional leaders, CAEs must set clear goals and objectives when performing assurance and consulting work and specify the results and compensation. As transactional leaders, CAEs should also take corrective action to address poor behaviour. This behaviour significantly impacts the effectiveness of IA functions; by performing more effectively, CAEs can demonstrate the IA's value proposition. Research has demonstrated a positive relationship between self-leadership and transformational and transactional leadership. Additionally, research suggests that CAEs must become self-leaders (i.e., eliminate their ineffective traits and cultivate constructive behaviour patterns) before leading an IA team.

RQ 2: *Does the organisational independence of internal audit affect internal audit effectiveness?*

Organisations confront the risk of being incapable of relying on or routinely benefitting from the value-added contribution of internal audit. Hence, if an internal audit is to last and help an organisation's performance, then it must not remain at this level. Internal audit needs to maintain a culture of transparency, openness, and accountability for results. Furthermore, legislation or government policies that ensure the organisational independence of IA activity and the personal objectivity of internal auditors should be strengthened. The reason is that the independence of IA plays a vital role in determining the internal audit capability level of listed companies. In this study, such independence is found to positively and significantly impact internal auditing in all dimensions, except organisational relationships and culture.

Additionally, the following elements need to be strengthened within the organisation:

1.   Organisational and individual accountability for results

2.   Professional culture

3.   Budgetary support to establish internal auditing as an independent activity with appropriate human resource capabilities

4.   An enabling environment that facilitates access to the information, assets, and personnel required to conduct the IA work

In summary, moving to the next stage has some prerequisites, including a strong good governance structure, and robust financial management, control, and accountability frameworks supported by a CAE. The current research findings can help organisations in formulating their strategies and steps to develop a reliable and effective IA capability.

RQ 3: *Does management support for internal audit affect internal audit effectiveness?*

Based on resource-based theory, the analysis of survey data and questionnaires has identified two factors that impact the effectiveness of IA, namely management support

and IA independence. According to resource-based theory, these factors affect the effectiveness of the IA of listed companies in China.

Several conclusions can be drawn based on the findings of this study. First, the competence and objectivity of internal auditors and the support of management influence the effectiveness of the IA function. It also has an important impact on the competence and objectivity of internal auditors, as well as the effectiveness of the IA function, which will ultimately affect the quality of financial reporting.

In this regard, listed companies should improve the capabilities of internal auditors, including through training, seminars, and workshops; such programmes should especially tackle government accounting standards and internal control systems, regional financial information systems, fraud detection, risk analysis, and control assessment techniques. Internal auditors must meet auditor competency standards and work under the guidance and supervision of the China Audit Office. A good ratio between the number of internal auditors and the audit work planned and to be completed, and the budget given to the IA department, is sufficient to support the training and development of internal auditors. Management support for IA includes the response to audit findings, commitment to strengthening IA, and provision of resources to the IA function (Alzeban & Gwilliam, 2012; Mihret & Yismau, 2007).

Using resource-based theory, this study has identified the support of senior managers as the first factor that significantly affects IA effectiveness. Resource-based theory holds that this factor is one of the most important resources for improving the effectiveness of IA. Nasibah (2015) reported similar findings, underscoring that the success of internal audit is significantly affected by the quality of IA and the support, budget, and resources

provided by top management. Alkebsi and Aziz (2018) also used resource-based theory and established a connection between the role of top management and the competitive advantage of the organisation. They argued that if senior managers recruit qualified internal auditors and equip them with the necessary resources to conduct their work at a high level, then the organisation will gain a competitive advantage. Salehi (2016) and Alzeban and Gwilliam (2014) similarly described how top management supports internal audits. According to these authors, management should participate in the internal audit plan, and management's suggestions should be fully considered by the chief auditor. In addition, the IAF should provide full, reliable, and relevant work reports, suggestions, and conclusions to top management. Ahmad et al. (2009) contended that the implementation of IA recommendations can also be regarded as a form of management support, and the implementation of these recommendations will substantially improve the overall effectiveness of the organisation. The responses to the questionnaire indicate that internal auditors have a positive view of top management's support for IA.

5.3 Limitations and Recommendations for Future Studies

The limitations of this study need to be acknowledged. First, this exploratory study introduces CAE leadership, the most crucial skill, as a new area of empirical research in the IA effectiveness debate. Due to its exploratory nature, this study has limitations; nonetheless, the study has created a platform for future research. Explanations of effectiveness and leadership depend on context, thus increasing the difficulty of developing general theories. Therefore, further work is needed to develop a scale for measuring the relationship between CAE leadership and IA effectiveness.

Furthermore, the samples are geographically concentrated in China. China is still a developing country, IA in the country is in its infancy, and the audit committee was recently established. Therefore, the findings of the study should be viewed in this context. Future research could deepen the understanding of the drivers that will require better leadership to increase the effectiveness of IA.

The research methodology also poses some limitations. It is based on questionnaires, and the findings are built from the respondents' perceptions. An in-depth study is recommended to identify the causes of internal audit deficiencies and to improve the understanding of actual internal audit capabilities. In particular, a cross-response study (auditor-audited two-group analysis unit: national, and to some extent, private and public sectors) can be undertaken for further research and surveys.

Second, due to cost and time constraints, this study merely focuses on three factors that impact the effectiveness of internal auditing. If more factors are to be included, surveys and interviews may result in more respondents responding and are time-consuming and lengthy, which may affect response rates. Future investigations could use studies from two or more countries, which would support more meaningful comparisons.

5.4 Economic Significance of the Results

Internal audit is a supervision and management work aimed at the formation of internal activities in enterprises. The implementation of IA work can adjust the internal structure of enterprises, promote the stability of internal development, and thus provide more support for the external control of enterprises. Internal audit can also form risk control and management for the business activities of enterprises and control the quality of internal operations of enterprises in the form of supervision and management, which forms a strong support for business decision-making and business activities of

enterprises. The IA of enterprises is of great significance to their economic gain. In particular, IA with a direct impact can improve the economic benefits of the enterprise, reduce its operating costs, avoid operational risks, enhance the quality of internal management and control, boost the core competitiveness, and thereby increase the value of the enterprise (Sekaran & Bougie, 2016).

The improvement in the economic gain of the enterprise is achieved not only in the increase in profit but also in the saving of costs. It is also a favourable measure to provide economic benefit for the enterprise with cost control measures. Enterprise cost control needs to save costs through reasonable measures in business activities that cannot affect the quality of enterprise products and services and maximise the profit of enterprise products (Sekaran & Bougie, 2016). Various factors affect enterprise cost control. From the perspective of enterprise internal audit, the IA work can develop a comprehensive overall plan for the internal resources of the enterprise, create specific reference materials in the thorough evaluation of IA, and analyse the business activities of the enterprise according to its actual situation. Business decisions constitute the basis of rectification methods (Sekaran & Bougie, 2016). In this manner, the internal resources of the enterprise can be maximised, which not only saves the expenditure cost of the enterprise but also boosts its profit and efficiency. Hence, internal resources have a direct role in improving the economic efficiency of the enterprise. For example, IA is used for supervising, managing, and controlling the internal procurement activities of the enterprise; standardising the procurement process; effectively controlling the procurement cost and product quality; and laying a solid foundation for boosting the economic benefits of the enterprise(Gao Jing. 2014).

The economic benefits of an enterprise pertain to the advantages obtained by the

enterprise in its business activities. In the market economy environment, the market risks confronting the business activities of enterprises are diverse. The more risks an enterprise encounters, the more dangerous the economic benefits will be(Gao Jing. 2014). Therefore, The improvement of enterprise economic benefits also needs to start with risk control, which has a practical significance to the enhancement of the enterprise risk avoidance ability through enterprise internal audit. Risk prevention and control represents the main goal and content of the IA work of enterprises. Risk assessment is formed in the business activities of the enterprise, and risk warnings are developed for the business decision-making and economic activities of the enterprise in the form of risk assessment, thus enabling the reasonable control of business risks. The circumvention effect and the economic benefits of enterprises create a guarantee. In the current market economy environment, the business activities of enterprises confront diverse risks. Many enterprises also have internal management problems (Amanuddin Shamsuddin et al., 2014). For instance, the misappropriation of funds affects the quality of business management and subjects the economic activities of enterprises to internal capital risks. In the control and management of the internal capital risk, IA mainly engenders the supervision and management effect through the supervision mechanism, avoids the internal capital risk with relevant systems and strict supervision work, improves the stability of internal operations, and thus provides a good internal control outcome for the enterprise. Preventing the internal capital risk of the enterprise, reducing its economic loss, and providing effective support for external business activities are therefore critical steps (Judge & Piccolo, 2004).

5.5 Concluding Remarks

Focusing on the development trend of internal auditing in China and grasping the factors that impact the effectiveness of internal auditing are important foundations and

prerequisites for better exerting the role and value of internal auditing. Combining historical documents, research data, and thinking, this study explores three factors that affect the development of IA in listed companies in the current society. However, internal auditing is constantly evolving and developing, and its changing trends are rich and diverse, which is far more than the content described in this paper. Many researchers have extensively explored the subject; hence, this topic is not repeated in the paper. Under the new normal and new situation of social and economic development, the purpose of examining the factors affecting the development of IA is to further improve the effectiveness of IA in pursuit of two objectives: to adopt targeted and effective countermeasures and suggestions for improving the level of IA work and to promote China's IA. In order to realize the healthy development of audit business.

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