THE EFFECT OF AUDIT COMMITTEE MEMBERS EXPERTISE ON INTERNAL AUDIT BUDGET: EVIDENCE FROM MALAYSIA

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ABSTRACT

Internal auditing is not only an important element of international businesses, but also a crucial component of the company's internal control and risk management. Audit committee's main objective is to ensure the trustworthiness and credibility of financial statements by monitoring the process of financial reporting. Internal auditing and audit committees serve each other to generate reliable financial statements. The available resources for internal audit department is monitored by audit committee, whereas internal audit department reports internal control activities to audit committee. The main objective of this study is to examine the impact of audit committee members expertise (accounting experience, auditing experience, BIG Four experience, academic qualification and professional qualification) on internal audit budget in the context of Malaysia. The sample of this study includes the top 100 firms listed in Bursa Malaysia over three-years period – from 2015 to 2017 to examine the proposed relationship. The regression analysis shows that audit committee members accounting experience and professional qualifications have a positive and significant impact on internal audit budget, while audit committee members who worked at BIG Four firms and acquire academic qualification have negative and significant effect on investment in internal audit. The theoretical, academic, regulatory and practical implications were explained in detail showing how policy makers, practitioners and academics can benefit from the current study.

Keywords: internal audit budget; audit committee expertise; agency theory, corporate governance

ABSTRAK

Pengauditan dalaman bukan sahaja merupakan elemen penting dalam perniagaan antarabangsa, tetapi juga merupakan komponen penting dalam kawalan dalaman dan pengurusan risiko syarikat. Objektif utama jawatankuasa audit adalah untuk memastikan kepercayaan dan kredibiliti penyata kewangan dengan memantau proses pelaporan kewangan. Pengauditan dalaman dan jawatankuasa audit saling melengkapi antara satu sama lain dalam menghasilkan penyata kewangan yang boleh dipercayai. Sumber sedia ada untuk jabatan audit dalaman dipantau oleh jawatankuasa audit, manakala jabatan audit dalaman melaporkan aktiviti kawalan dalaman kepada jawatankuasa audit. Objektif utama kajian ini adalah untuk menyelidik kesan kepakaran ahli jawatankuasa audit (pengalaman perakaunan, pengalaman audit, pengalaman *BIG Four*, kelayakan akademik dan kelayakan profesional) terhadap belanjawan audit dalaman dalam konteks Malaysia. Sampel kajian untuk meneliti hubungan yang dicadangkan terdiri daripada 100 buah firma teratas yang tersenarai di Bursa Malaysia dalam tempoh tiga tahun (2015 – 2017). Analisis regresi menunjukkan bahawa pengalaman perakaunan jawatankuasa audit dan kelayakan profesional mempunyai kesan positif dan signifikan terhadap yuran audit dalaman, sementara ahli jawatankuasa audit yang bekerja di firma *BIG Four* dan memperoleh kelayakan akademik mempunyai kesan negatif dan signifikan ke atas pelaburan dalam audit dalaman. Implikasi teori, akademik, kawal selia dan praktikal yang dijelaskan secara terperinci menunjukkan bagaimana pembuat dasar, pengamal dan ahli akademik boleh mendapat manfaat daripada kajian semasa.

Kata kunci: belanjawan audit dalaman; kepakaran jawatankuasa audit; teori agensi, tadbir urus korporat

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LIST OF ABBREVIATION

AC	Audit committee
ACCA	Association of Chartered Certified Accountants
BOD	Board of Directors
BRC	Blue-Ribbon Committee
CARE approach	Comprehend, Apply and Report approach
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CG	Corporate Governance
CIA	Chief internal auditor
CLERP	Corporate Law Economic Reform Program
COO	Chief Operating Officer
CPA	Certified Public Accountant
EY	Ernst and Young
GAAP	Generally accepted accounting principles
IAD	Internal audit department
IAF	Internal audit function
IAS	International Auditing Standards
ICAEW	Institute of Chartered Accountants in England and Wales
IFAC	International Federation of Accountants
IIA	Institute of Internal Auditors
IIAM	Institute of Internal Auditors Malaysia
LM	Lagrangian-Multiplier test

MCCG	Malaysian Code on Corporate Governance
MIA	Malaysian Institute of Accountants
MICG	Malaysian Institute of Corporate Governance
MICPA	Malaysian Institute of Certified Public Accountants
NACD	National Association of Corporate Directors
OLS	Ordinary least square
POB	Public Oversight Board
PwC	PricewaterhouseCoopers
REITs	Real Estate Investment Trust
ROA	Return on Assets
SC	Securities Commission
SEC	Securities and Exchange Commission
SMEs	Small and medium sized enterprises
SOX	Sarbanes-Oxley Act
U. S.	United States of America

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

After a series of corporate accounting scandals and intentional manipulations such as WorldCom, Enron, Tyco, Satyam and Barings worldwide, investors' confidence in capital markets decreased to the lowest point ever (Alzeban & Sawan, 2015). Investors' confidence deteriorated to involved audit firms and accounting profession as a whole which resulted in growing concerns towards the role of corporate governance in recent years (Ebaid, 2011). Corporate governance mechanisms have been called for to face and eliminate such collapses (Endaya & Hanefah, 2016). One of the most significant mechanisms that has been used recently is internal audit function (Coram, Ferguson, & Moroney, 2008; Sarens & Abdolmohammadi, 2011). Both scholars and regulators have emphasized in the important role of internal controls to ensure the validity and reliability of financial statements (Salehi & Bahrami, 2017; Khlif & Samaha, 2016).

In response to these corporate accounting collapses, many countries passed laws to limit the ability of corporations to commit fraudulent activities and manipulations. The United States of America Congress passed the Sarbanes-Oxley Act of 2002, the United Kingdom passed the combined code of 2000 and 2009, Australia issued Corporate Law Economic Reform Program (CLERP) 9 2004, Spain issued Unified Good Governance Code 2006, Germany issued Corporate Governance Code 2009 and many other countries including Malaysia issued codes on corporate governance that all listed corporations should follow.

Corporate governance techniques have been called for to enhance the monitoring role over financial statements. The American Act and the codes pushed for more concentration on the importance of internal auditing and internal controls. Therefore, many corporations have shifted their focus towards internal audit lately to fulfil the corporate governance codes requirements. Furthermore, statistics about internal audit in the U.S showed that investment in internal audit and internal audit employees number increased by more than 10% over 2001 and 2002 (Carcello, Hermanson, & Raghunandan, 2005).

Internal auditing is not only an important element of international businesses, but also a crucial component of the firm's risk management and internal control (Anderson, Christ, Johnstone, & Rittenberg, 2012). A survey organized by Ernst and Young (EY) Malaysia, the Institute of Internal Auditors Malaysia (IIAM) and the Malaysian Institute of Corporate Governance (MICG) in 2000 proved that internal auditors serve as vital consultants to minimize risks, and they are in a place that enable them to comprehend the company's business practices [1]. Internal audit aims to protect the interests of shareholders mainly and stockholders as well, improve firm's performance and assist the company in achieving its

[1] Ernst & Young, Malaysian Institute of Corporate Governance (MICG) and Institute of Internal Auditors Malaysia (IIAM) 2000 Profile of Internal Audit in Malaysia: Preliminary Survey Results (Ernst & Young, Kuala Lumpur).

goals by evaluating its internal control, governance and risk management (Carcello et al., 2005).

Internal audit is one of the mechanisms that company's owners utilize to overcome agency theory problem. Agency theory explains the conflict that rises between managers (agents) and shareholders (owners) in a company where the Chief Executive Officer (CEO) is not the owner of the firm (Jensen & Mecklings, 1976). Agents will always try to maximize their wealth against the interests of the company's owners, so agency theory suggests the use of external and internal corporate governance mechanisms to eliminate this conflict (Jensen & Mecklings, 1976). Audit committee (AC) is one of the most significant mechanisms to reduce this conflict since it is expected to monitor the financial reporting process, in particular to monitor internal and external auditors' works and internal control system (Hermanson & Rittenberg, 2003).

The characteristics of audit committee (e.g. expertise, independence, tenure and diligence) have been studied by many researchers up to date. The current research will investigate factors of audit committee expertise such as accounting experience, auditing experience, experience with BIG Four audit firms, academic qualification and professional qualification. The presence of accounting expertise on AC will lead to decrease internal control problems and increase financial reporting quality (Krishnan & Visvanathan, 2008; Hoitash, Hoitash, & Bedard, 2009; Naiker & Sharma, 2009). The presence of auditing experience on the AC is even more effective at minimizing internal control failures as explained by SOX 404 (Naiker & Sharma, 2009).

To guarantee the financial reporting quality, the vital function of audit committee and effective internal audit in reinforcing the outlook of financial reporting and the framework of corporate governance of the company has been discussed by the Securities and Exchange Commission (SEC) and academic researchers (Mat Zain & Subaramaniam, 2007). A successful internal audit function reinforces audit committees with fraud and risk analysis, accounting procedures independent evaluation, and confirmations about company's internal control (Hermanson & Rittenberg, 2003). Furthermore, audit committee has the responsibility to get internal audit plan reviewed and to ensure that internal audit function scope is proper (Mat Zain, Subramaniam & Stewart, 2006).

The motivation of this study stems from the significance of effective internal audit function and audit committees in corporate governance processes and financial reporting. A few studies have examined the association between audit committee characteristics and internal audit function (Goodwin, 2003; Mat Zain et al., 2006; Abbott, Parker, & Peters, 2010; Yasin & Nelson, 2012; Anderson et al., 2012, Adel & Maissa, 2013; Alzeban & Sawan, 2015; Alzeban, 2015; Oussii & Taktak, 2018). This study extends the above researches by examining the effect of specific factors of audit committee members expertise on investment in internal audit. Malaysian listed firms are required to announce internal audit budget information and audit committee information in their annual reports. This made it easier for academic researchers to study the relationship between these important factors (Al-Dhamari, Almagdoub, & Al-Gamrh, 2018).

1.2 Problem Statement

Companies are progressively developing their practices of corporate governance, risk management and internal control due to the growth of ethical practices, accuracy of cost management, corporate accountability and transparency of financial reporting. One of the major practices of corporate governance is internal audit which is important to firms since it produces services to management such as preventing fraud, fraud analysis, assurances regarding internal control, risk analysis and ensuring compliance with firms' policies and government regulations (Hermanson & Rittenberg, 2003).

In Malaysia, there are many cases of firm mismanagement and corporate failures, which proves the need for effective and efficient internal auditing in the private and public sectors (Ali, Saidin, Sahden, Rasit, Rahim, & Gloeck, 2012). Examples of these incidents include Malaysian Airline Financial Scandal, 1Malaysia Development Berhad and Genting Malaysian Berhad. According to Ali, Chen and Radhakrishnan (2007), private and public corporations in Malaysia lacks competency in internal audit and internal audit staff efficiency. They also argued that the Malaysian government could not provide enough support to enhance the importance of internal audit function.

In addition, audit committee members are usually appointed by managers who run the company (Abdullah, Yusof, & Mohamad Nor, 2010). Therefore, it is hard to expect audit committee members to challenge management decisions. Researchers also believe that audit committee members act as a rubber stamp for management decisions and it is only formed to comply with Bursa Malaysia requirement (Zulkarnain & Shamsher, 2007). So, it is necessary to discover the effectiveness of audit committee in monitoring the works performed by internal auditors and to what extent companies are willing to invest in internal audit function (Diamond, 2002).

Internal audit adds value to the company by equipping it with necessary assurance that its exposure to risk is properly managed and comprehended (Walker, Shenkir & Barton, 2003). It assists to monitor a firm's risk profile and distinguish areas to develop risk management techniques (Lindow & Race, 2002). An effective internal audit department is able to strengthen the internal control environment of a company by reviewing periodically the structure of internal control and overseeing the information system operations and control techniques on behalf of the managers (Goodwin-Stewart & Kent, 2006). They also added that an efficient internal audit function can safeguard the company against theft of its assets and fraud from management and employees as well. Due to many essential functions of internal audit, it is necessary to understand how much a company should invest in internal audit.

Audit committee's main objective is to ensure the trustworthiness and credibility of financial statements published by the firms by monitoring the process of financial reporting (Bradbury, Mak, & Tan, 2006). The main characteristics of audit committee to perform its monitoring role on the process of financial reporting and internal control are financial experience, independence, meeting regularly (BRC, 1999). According to Nelson and Devi (2013), audit committee financial expertise includes accounting and financial experience, auditing experience, academic qualification and professional qualification. A study conducted by Mohamad-Nor, Shafie & Wan-Hussin (2010) explained that almost 40% of audit committee members possessed an accounting or finance background. Audit committee and internal audit department (IAD) should be closely communicated with top management to get benefits of their activities by the overall corporation (Soh & Martinov-Bennie, 2011). As a result of this, it is necessary to investigate the possible correlation between audit committee members expertise and investment in internal audit in Malaysia.

Prior studies examined relationship between AC and external audit related factors (fees, audit report lag) and internal control. However, limited studies investigated the relationship between AC and internal audit budget such as Barua, Rama and Sharma (2010); Al-Dhamari et al. (2018). These studies looked at several characteristics of AC and did not provide a clear picture on the effectiveness of AC expertise characteristics and how it would influence investment on internal audit.

The current study is different from Barua et al. (2010) and Al-Dhamari et al. (2018) studies in two different dimensions. First, both studies examined the association between audit committee characteristics (AC composition, AC expertise, AC independence, and AC meetings) in general and internal audit budget, while the present study solely focuses on the association between one characteristic of audit committee (AC expertise) and internal audit. Expertise can be perceived in many ways (academic, qualification and work experience), so different types of expertise may lead to different outcomes. Second, Barua et al. (2010) used data that goes back to 2001, 2002 and 2003 and Al-Dhamari et al. (2018) used data from 2015 to 2017, while the current research covers data that are published recently (2015-2017).

In addition, Barua et al. (2010) had carried out their research in the U.S. where ownership is dispersed and a clear separation between ownership and control exists, whereas the current study is carried out in Malaysia where ownership is concentrated at family members, major institutions, or government bodies and the separation between ownership and control is not clear. Moreover, Al-Dhamari et al. (2018) study only controlled for firms factor and internal audit factor (omitted variables), while the current study controls for all areas. The present research enriches and complements the prior researches by investigating the effect of audit committee members financial expertise on investment in internal audit.

1.3 Research Questions

Research questions for this study are:

1. Is there a significant relationship between AC experience and internal audit budget?
   i. Is there a significant relationship between AC experience in accounting and internal audit budget?
   ii. Is there a significant relationship between AC experience in audit and internal audit budget?
   iii. Is there a significant relationship between AC members experience who have worked at BIG Four audit firms and internal audit budget?
2. Is there a significant relationship between AC qualification and internal audit budget?
   i. Is there a significant relationship between AC members academic qualification and internal audit budget?
   ii. Is there a significant relationship between AC members professional qualification and internal audit budget?

1.4 Research Objectives

The main objectives of this study are:

1. To examine the relationship between AC experience and internal audit budget.
   i. To examine the relationship between AC experience in accounting and internal audit budget.

ii. To examine the relationship between AC experience in audit and internal audit budget.

iii. To examine the relationship between AC members experience who have worked at BIG Four audit firms and internal audit budget.

2. To examine the relationship between AC members qualification and internal audit budget.

i. To examine the relationship between AC members academic qualification and internal audit budget.

ii. To examine the relationship between AC members professional qualification and internal audit budget.

1.5 Significance of the Study

The significance of the present research relates to its contribution to audit committee and internal audit practice and literature as well in many ways. The current study provides empirical evidence from an emerging nation that may assist enriching the current literature on audit committee and internal audit. Moreover, this study helps to comprehend internal audit profession in the world and Malaysia in particular by investigating the correlation between audit committee members expertise and internal audit budget.

Furthermore, this study will reinforce policy makers and organizers perceptions on the impacts of audit committee members expertise and internal audit budget in the environment of Malaysia, where protecting minority shareholders' interests and stakeholders' interests by law enforcement needs to be improved, and internal audit function role to enhance the financial reporting process remains unknown. The findings of this research can be valuable for the Malaysian authorities such as Malaysian Institute of Corporate Governance (MICG) and Bursa Malaysia to plan, execute and design practices that perfectly suit the internal audit department of Malaysian public firms.

The current study will be beneficial to researchers and academics whose focus areas of research are internal audit and audit committee expertise. This study discusses current issues where future research can be conducted to support the quality of audited financial statements and accounting information among firms. Literature on internal audit is still limited, so this study can provide more knowledge to those who wish to investigate in internal audit area. Furthermore, the present study adds to agency theory literature by investigating the suitability of agency theory to elaborate the role of AC in monitoring internal audit function and how internal audit and audit committee are considered as main mechanisms to reduce agency costs.

1.6 Definition of Key Terms

To increase the study clarity, the definitions of key terms are provided as follow:

1. Corporate Governance

A method employed to manage and direct the business and the company's affairs towards encouraging business growth and corporate responsibility with the objective of achieving long-term shareholder wealth and value, while taking into consideration the other stakeholders interests (MCCG, 2017). It also concerns the association among board of directors, corporate managers and shareholders. Further, the relationship of the company to stakeholders in particular and society in general (Ben Bouheni, Ammi, & Levy, 2016).

2. Audit Committee

Audit Committee has been defined by Sarbanes Oxley Act (2002) as a body that is formed amongst and by the BOD to monitor the financial and accounting reporting procedures and processes of the issuer and oversee the financial statements audit procedure.

3. Audit Committee Financial Expert (ACFE)

ACFE is an individual who possesses the following characteristics: a comprehension of financial statements and generally accepted accounting principles (GAAP), experience in auditing, preparing, evaluating, or analyzing financial statements, a comprehension of internal control system over financial reporting, and a comprehension of audit committee roles and functions (SEC, 2003). Bursa Malaysia listing requirements define ACFE as members with accounting or managerial experience and academic qualification.

4. Internal Audit Budget

Internal audit budget refers to salaries, travelling, trainings, allowances, bonuses and out-sourced services (Wan-Hussin & Bamahros).

1.7 Scope of the Study

The main objective of this study is to examine the association between audit committee members expertise and internal audit budget in Malaysia. The current study covers top 100 listed companies on Bursa Malaysia since they reflect a huge part of Malaysian economy. The top 100 companies were selected because they provide enough data about internal audit and AC in their annual reports. The research period covers 2015, 2016, and 2017.

1.8 Organization of the Study

The organization of the current study follows the following pattern: Chapter two provides a discussion on prior literature about investment in internal audit and audit committee members expertise. It also explains the significance of corporate governance and its development in Malaysia throughout the years. Chapter two also discusses the underlying theory used in this study. In chapter three, the study shows the research framework and how hypotheses were developed. This chapter also elaborates research method used in the current study and examines data collection, sample selection, study period, techniques of data analysis, and variables measurement. Chapter four shows the analysis of correlation, the descriptive analysis, diagnostic tests, regression analysis and sensitivity tests. Finally, chapter five displays a summary of the study and discusses its findings, limitation and implications.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The main purpose of this chapter is to provide a literature review on the areas of internal audit function and audit committee. The structure of this chapter follows the following pattern: Section 2.2 provides an overall review on corporate governance in Malaysia and how it was developed throughout the years ending with releasing the new MCCG of 2017. Section 2.3 looks at literature conducted on internal audit function in general and internal audit budget in particular. Section 2.4 depicts the overall function of audit committee, describes the meaning of audit committee members expertise which include experience and qualification and looks at prior literature covered those variables in different contexts. In section 2.5, we explain the theory employed in this study. Finally, section 2.6 provides a summary that concludes.

2.2 Corporate Governance

Corporate governance depicts the relationship between the owners of the firm and its management to direct the corporation towards achieving its objectives. The governance role in directing the management towards success is a controversial topic that has been under debate among academics, regulators, corporate owners, and managers. Most problems that result in economic crisis in different countries can be pointed back to poor corporate governance (Faleye & Krishnan, 2017). Many boards of directors failed to execute their primary role successfully which is to monitor and oversee the management. As a result, many managers made poor decisions and took much risks to gain profits in the short-term only and huge losses in the longer-term (Faleye & Krishnan, 2017). Corporate governance techniques are perceived as important tools to make mangers lead the corporation in a pattern that aligns with the shareholders' interests, thus reducing the agency problem and its costs (Shleifer & Vishny, 1997; Chen, Lu, & Sougiannis, 2012).

Strong governance happens if a suitable level of overseeing and control in the firm exists (Cadbury, 1997). A good corporate governance can improve the level of confidence of the investors and stakeholders and develop company's brand name (Gupta & Sharma, 2014). This is because the investors perceived that companies that have a good corporate governance will have a better credibility and good performance (Wijethilake, Ekanayake, & Perera, 2015). In addition, a good corporate governance will enhance corporate transparency by ensuring a greater disclosure on financial and non-financial information and can protect shareholders' rights (Shamsudin, Abdullah, & Osman, 2018).

After the various corporate scandals that occur around the world such as Enron, different developing and developed countries emphasized on the need for better corporate governance to limit such scandals and regain the trust of investors (Hashim & Devi, 2008). The Asian financial crisis of (1997-1998) and many corporate scandals in Malaysia such as 1Malaysia Development Berhad and Malaysian Airlines scandals served as a caution for the Malaysian authorities to focus more on corporate governance mechanisms that could increase transparency and trustworthiness of Malaysian corporations. The Malaysian government induces listed companies to follow the best practices of corporate governance that could be found in Bursa Malaysia's Corporate Governance Guide (2007, 2009, 2017) and the Malaysian Code on Corporate Governance MCCG (2000, 2007, 2012, 2017). Those practices include the mechanisms of corporate governance that lead to company's prosperity such as internal audit function and audit committee (Mat Zain & Subramaniam, 2007).

Many governments have put pressure on public and private corporations to form independent internal audit function to monitor the management performance. Internal audit as an overseeing mechanism is supported by Coram, Ferguson and Moroney (2008) who found that companies that employ internal audit function are more likely to detect fraud and misappropriation of assets. Their finding provides an insight about the significance of internal audit function as a corporate governance mechanism by reinforcing the monitoring tool to detect and report fraud.

In addition, audit committee is also seen as a controlling mechanism to guard the interests of shareholders, so it has been taken serious attention from regulators worldwide. The National Association of Corporate Directors (NACD 2000), the Public Oversight Board (POB, 1993) and the Securities and Exchange Commission (SEC) have put pressure and regulations on the importance of audit committee role as a monitoring mechanism over the process of financial reporting and overseeing the relationship between a company's external auditor and its management (Abbott et al., 2003). Such attention has given the birth for the Blue-Ribbon report which calls for developing the audit committee effectiveness in a firm (BRC, 1999).

2.2.1 Malaysian Code on Corporate Governance

MCCG (2000) emphasized the responsibilities and roles of audit committee as part of the board of directors. It suggested audit committee to take care of the problems arising from controlling and dominant shareholders and asked audit committee to fully play their role as independent directors in the organization. In 2007, the MCCG was revised to come up with more strict rules to perform the duties of board of directors and audit committee more effectively. MCCG (2007) recommended all listed firms to form an audit committee as part of the board whose members are mostly independent and at least one of them is a member of an accounting body or association. MCCG (2007) suggested to form audit committee from at least three members. In April 2010, the Security Commission established the Audit Oversight Board to reinforce the credibility and trustworthiness of the process of financial reporting in Malaysia.

The Security Commission revised MCCG again in 2012 to obtain excellence in the practices of corporate governance by emphasizing the roles of the BOD in general and audit committee in particular (MCCG, 2012). MCCG (2012) asked for more monitoring in how independent and proper the external auditor is since the independence of external auditors can be compromised when they perform non-audit services for the same company. As in common, the audit committee should get an assurance from the external auditor stating that a high level of professionalism and independence have been maintained throughout audit process and internal audit function is performed in-line with the country's specific regulations and accounting and auditing standards. The regulations made by Bursa Malaysia Listing Requirement revised on 2013 required all listed companies to form internal audit function and required internal auditors to report directly to the audit committee in order to increase company's independence. In addition, MCCG (2012) also recommends all listed companies to disclose all information related to the internal audit function in their annual report, and they also need to disclose information related to internal audit function such as the cost of internal audit and whether the internal audit function is performed in house or outsourced (Johl, Johl, Subramaniam, & Cooper, 2013).

In 2017, The Malaysian Security Commission revised MCCG once again to focus on the internalization of CG culture. This focus does not concern only listed companies, but MCCG (2017) also induces non-listed firms such as small and medium sized enterprises (SMEs), government enterprises and licensed intermediaries to adopt the code. The Malaysian code consists of 36 practices to fulfil three main principles namely board leadership and effectiveness; effective audit, risk management, and internal controls; and corporate reporting and relationship with stakeholders.

A new dimension presented in MCCG (2017) is the Comprehend, Apply and Report (CARE) approach where firms need to first understand the spirit of the code, apply all practices and then report to the required authority. The code also shifted from "comply or explain" to "apply or explain an alternative'. Under this new approach, the companies must apply all MCCG practices taking into consideration the environment surrounding them; however, if the company finds itself unable to apply any of the code practices, it has to apply an alternative that could achieve the desired objective and explain why it has used that alternative (MCCG, 2017). The code also introduced what is called "Step-up" to induce firms to achieve better corporate excellence such as the establishment of risk management committee and form an audit committee that encompasses of all independent directors (MCCG, 2017).

The newly revised code put the burden on audit committee to ensure that internal audit department in a company is functioning independently from the management; therefore, audit committee should decide the work scope, budget, removal, appointment and performance evaluation of internal audit department. MCCG (2017) requires the board to disclose whether internal audit staff are involved in any conflicts of interest which could compromise their independence, resources assigned for the internal audit function, name and qualification of the chief internal audit, and whether a recognized framework was adopted when performing internal audit function.

2.3 Internal Audit

The institute of internal auditors (IIA) defines internal audit as "An independent, objective assurance and consulting activity designed to add value and improve an organization's operations. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes" (IIA, 2004). It is clearly obvious from the definition that internal audit function has shifted from assets safeguarding and assuring compliance to ensuring value-added and providing consulting services through its duties in evaluating, monitoring and risk management improvement (Bou-Raad, 2000). The definition included consulting and assurance as part of internal audit function to enhance the new extended role of internal audit that concentrates on the significant issues of risk management, control and governance (Anderson & Chapman, 2002)

Internal audit is one of the essential basis to acquire an effective corporate governance. One of the main parts of corporate governance is internal audit department that plays a key role in supporting the board and the management to meet their goals and objectives (Rittenberg, Moore, & Covaleski, 1999). Ruud (2003) added that in the modern world of companies, internal audit has a main upholding role for external auditors, audit committee, management, BOD and other stakeholders. Part of the extended role of internal audit includes ensuring that the management performance and works are aligned with relevant practices and laws in the country. Internal audit also provides recommendations to the company on how to develop their governance and internal control processes (Ebaid, 2011).

Internal audit function (IAF) plays as an effective base for internal control aside with audit committee and BOD in achieving excellent corporate governance (Prawitt, Smith, & Wood, 2009; Soh & Martinov-Bennie, 2011). Internal audit report helps to supplement existing governance disclosures and strengthen the reliability of financial reporting and the confidence of stakeholders in governance quality (Archambeault, DeZoort, & Holt, 2008). An efficient internal audit function can safeguard the company against theft of its assets and fraud from management and employees as well. Asare, Davidson and Garmling (2008) argued that internal auditors are unlikely to agree to management's incentives to misreport information. Internal audit is recently considered a very important part of global businesses since it assists to have a better risk management and a greater structure of internal control in a company. Rittenberg et al. (1999) showed that one major part of corporate governance is internal audit function as it assists the firm to meet its objectives along with the management and the BOD.

Firms that have internal audit department are considered larger, more competitive, more liquid and profitable, highly regulated, better management control and stricter to apply accounting standards (Wallace & Kreutzfeldt, 1991). Internal audit is organized in various cultural and legal environments within companies that differ in aim, structure and size and it is also carried out by different individuals inside or outside the firm (Fadzil, Haron, & Jantan, 2005). International Auditing Standards (IAS) induce external auditors to review and consider the duties performed by internal auditors and their effects on audit procedures (Wan-Hussin & Bamahros, 2013).

To develop internal audit function, internal auditors should have enough experience and skillful communication abilities (Gramling & Hermanson, 2006). Ge and McVay (2005) argued that a weak quality of internal control is caused by spending few resources to accounting controls. To emphasize the importance of skills and qualifications, the Institute of Internal Auditors requires internal auditors to have knowledge, skills and competencies necessary to perform their responsibilities effectively (IIA, 2005; 2008).

To achieve a successful internal audit in an organization, internal audit department should be provided with enough resources. An effective internal audit function requires sufficient resources to cover the qualitative and quantitative demands of the audit procedures. Two major aspects decide the aggregate quality of IAF: the quality of professional care employed and the quantity of audit work and effort (Mat Zain et al., 2006). For example, a larger internal audit department is supposed to have more employees, thus it can be assumed that internal audit scope would cover larger samples when compared to a smaller internal audit department (Mat Zain et al., 2006). The above issues emphasize for the need to invest in internal audit function to develop its oversight and internal control roles.

Some papers have discussed the importance of internal audit for a firm. Wallace and Kreutzfeldt (1991) used US audit firms as their sample finding that internal audit has a significant relationship with client characteristics such as industry, client's size, audit committee presence, and financial condition. Based on interview and questionnaire responses from external and internal auditors in Saudi Arabia, Al-Twaijry, Brierley and

Gwilliam (2004) study found that external auditors tend to believe that one major indicator of internal audit quality is its size. Goodwin-Stewart and Kent (2006) tested whether Australian listed companies use internal audit and found only tierce of the companies have internal audit department. Their findings revealed a positive association between commitment level to risk management and client size and the existence of IAD.

Furthermore, Mat Zain et al. (2006) study revealed a positive correlation between contribution of internal auditors to the financial statements as evaluated by internal auditors themselves and size of internal audit department. Another study showed factors that affect the capacity of internal audit employees namely, number of audit assignments carried out by internal auditors, firm's size, internal auditing and industry decentralization, and the significance of capital markets for the firm (Gronewold & Heerlein, 2009). A similar study by Sarens and Abdolmohammadi (2011) proposed some factors of internal audit employees' capacity. Their findings showed that the ownership structure, firm's size and variety of reporting levels are vital determinants of how large internal audit department should be in Belgian companies.

Moreover, Singh and Newby (2010) reported a positive relationship between external audit fees and the existence of internal audit department in a firm. This result indicates that firms utilize internal audit as a complementary way to audit budget in order to support the aggregate control environment. However, Ho and Hutchinson (2010) argued that the existence of internal audit department leads to a less audit fees. Their results showed that internal audit function substitutes for some external auditing procedures, which lead to external auditor's reliance on the activities performed by internal audit department.

A study by Suwaidan and Qasim (2010) in Jordan found that internal auditors' competence, objectivity and work performance are considered as important elements affecting the external auditor reliance on internal auditor's activities. However, the study revealed no relationship between external audit fees and external auditor reliance on the internal auditor's work. A recent study by Oussii and Taktak (2018) reported that the quality of internal control in Tunisian listed companies is positively and significantly related to involvement of audit committee to review internal audit scope of work, internal audit process and internal audit staff competence. Prior studies have examined internal audit function in the context of different independent variables such as clients' characteristics and audit committee characteristics, but the studies in internal audit field still need more attention since this type of audit was not a major concern for many countries until the late decade of 1990s

2.3.1 Internal Audit Budget

Internal audit function costs encompass of salaries, travelling, trainings, allowances, bonuses and out-sourced services (Wan-Hussin & Bamahros, 2013). In other words, internal audit budget refers to the amount of investment or money a company is willing to pay for internal audit department if it is done in-house or to be paid to outsourced party in order to conduct internal audit process. MCCG (2017) recommends all listed companies to disclose the number of resources invested in internal audit function for the financial year which explains the significance of financial resources to perform effective internal audit.

A well-funded internal audit department should have greater overseeing ability to reveal and report material misstatements since huge resources allow IAF to hire competent and qualified staff (Prawitt et al., 2009). Similarly, Johl et al. (2013) reported a well-resourced internal audit department has a better capability to limit fraud and decrease management opportunism. Despite the fact that accessible financial resources to internal audit department are pivotal to allow the IAF to supply audit committee with effective overseeing and monitoring over the financial reporting processes and management performance, limited studies have examined the results a company gets when investing in the IAF.

Companies that face crucial risks tend to maximize the efficiency and effectiveness of IAF monitoring process by allocating more commitment to IAF (Carcello et al., 2005). Internal control strength is usually correlated with sufficient and accessible monetary and non-monetary resources being allocated to the department of internal audit (Ge and McVay, 2005). As a result, internal audit capabilities and financial resources enable internal auditors to possess a good comprehension of their corporate governance roles and facilitate performing corporate governance roles by the management team (Schneider, 2008). Furthermore, investing in internal audit function boosts the skills, capabilities and competence of internal audit department staff leading to effective internal audit procedures and better control of financial reporting (Lin, Pizzini, Vargus, & Bardhan, 2011).

In the context of internal audit budget, Carello et al. (2005) study revealed that leverage, operating cash flows, firm size, industry type, and inventory intensity have significant positive correlation with investment in internal audit. The study revealed that internal audit budget tends to be higher when reviewed by audit committee. Ashbaugh-Skaife, Collins and Kinney (2007) and Doyle, Ge and McVay (2007) found a negative relationship between disclosure of internal control ethics and investment in internal audit function. Wan-Hussin and Bamahros (2013) and Pizzini, Lin and Ziegenfuss (2014) study examined the relationship between audit delay and internal audit budget finding that the more investment in internal audit function, the less audit delay.

2.3.2 Audit Committee Characteristics and Internal Audit Budget

There are several studies that focused precisely on the relationship between audit committee characteristics and internal audit budget (e.g. Barua et al., 2010; Alzeban, 2015; Al-Dhamari et al., 2018). Barua et al. (2010) studied a sample of 181 listed companies in the U.S and found that internal audit budget has a negative association with audit committee members tenure and audit committee members expertise, while it has a positive association with audit committee meetings which is a proxy for the diligence of audit committee. In Addition, Alzeban (2015) covered all companies listed on Saudi Stock exchange (TADAWL) in the year of 2014. The study aimed to examine the impact of AC industry expertise on internal audit characteristics such as IA budget and IA size finding that members of AC who possess both auditing and industry expertise have greater impact on internal audit characteristics than members whose expertise rely on industry experience only.

Furthermore, Al-Dhamari et al. (2018) study covered a sample of 100 firms listed on Bursa Malaysia for the period 2012-2014. It aims to study the effects of audit committee characteristics on internal audit budget. The study revealed a positive and significant relationship between audit committee meeting and index and internal audit budget. The results also indicated a negative and significant effect of audit committee tenure on internal audit budget; however, audit committee members independence and expertise have no significant association with investment in internal audit.

Barua et al. (2010) measured audit committee members expertise as auditing experience and accounting experience, neglecting the importance of having academic and professional qualifications to enhance experienced members with proper knowledge. The current study intends to study several factors of expertise that may affect internal audit budget. In addition, Barua et al. (2010) study was conducted in the U.S which has dispersed ownership of corporations and a clear separation between ownership and control exists, while the current study examines the relationship in Malaysian context where ownership is concentrated at the hands of family members, major institutions, or government bodies and the separation between ownership and control is not clear. Furthermore, Barua et al. (2010)

study examined old data 2001-2003 before the international financial crisis of 2008, while the current study examines recent data.

Alzeban (2015) measured audit committee members expertise as auditing expert and industry expert. He neither considered members who have accounting experience nor members qualifications in related fields. Alzeban (2015) conducted his study in Saudi Arabia where corporate governance practices still primitive, while the current study examines the relationship in the Malaysian context which has enforced better corporate governance practices. Furthermore, present study extracts data from annual reports, whereas Alzeban (2015) study uses questionnaires sent to internal audit chiefs.

Al-Dhamari et al. (2018) study focused on audit committee members auditing or accounting qualification, while experience was not taking in mind. The current study focuses in experience and qualifications as well. It is true that Al-Dhamari et al. (2018) study was conducted recently, but the data was extracted for the period of 2012-2014 which is before the release of the newly revised MCCG (2017). The present study considers data before and after the release of MCCG (2017), so the companies are more likely to adopt better practices regarding internal audit function and audit committee.

2.4 Audit Committee

Audit committee is perceived as a sub-committee of the firm's BOD which maintains a healthy and appropriate connection among external auditors, internal auditors, other board member and the management (Salleh & Haat, 2014). Effectual audit committee members can ensure focus, independent judgment and transparency required to monitor the process of financial reporting (MCCG, 2017). The code also states that the suitable level of skills, commitment, knowledge and experience of audit committee members is important to the capability of AC to perform its duties effectively and efficiently. The Malaysian Securities Commission (SC) declared the necessity for audit committee in a company back in 1993. Bursa Malaysia requirements regarding audit committee include appointing no less than three members for this committee in which most of them are independent directors, at least one of them is a member of the Malaysian Institute of Accountants (MIA), or has enough qualifications and experience in accounting to be called financially literate.

MCCG (2017) proposes that all audit committee members to be financially literate and have enough comprehension of the firm's business. This will allow audit committee members to apply a critical view in the firm's transactions, process of financial reporting and other information. It will also allow them to question the manager's assertions on the firm's financials. MCCG (2017) elaborates one of the audit committee main duties which is reviewing and providing recommendations on whether the company's financial statements represent truly and fairly the performance and financial position of the same company. The definition of audit committee members who is financially literate is the ability to read and understand financial statements and reports, the ability to comprehend and realize the usage of accounting standards and the ability to provide effective criticism and raise questions about the firm's activities on risk management and internal controls

(Bursa Malaysia, 2009). The Blue-Ribbon Committee BRC (1999) suggests the inclusion of one financial expert in the audit committee.

Several duties are the accountability of audit committee such as understanding the disagreements between external auditor and management and how to resolve them, understanding audit judgements, comprehending auditing issues and procedures needed to tackle them and keeping a healthy communication with external and internal auditors (Mohamad-Nor et al., 2010). According to DeZoort, Hermanson, Archambeault and Reed (2002) an effective audit committee is a committee that encompasses members with resources, power and high qualifications to ensure the protection of shareholders' interests. Audit committee can fulfil this protection by strengthening internal controls, managing risks and ensuring high quality of financial statements.

Parker (1992) reported that audit committee is considered a channel that connects the external auditor, BOD and internal control system. Audit committee can effectively safeguard the interest of shareholders by guaranteeing effective internal controls, managing risks and financial reporting quality during its overseeing duties. Audit committee independence and expertise are vital elements that can limit audit report lag and thus ensure timeliness (Hashim & Abdul Rahman, 2011). Effective audit committee protects shareholders' interest since it ensures that financial reporting, internal control and external auditing works are performed in-line with owners' interests (Bedard & Gendron, 2010).

To be effective, audit committee characteristics should include, among others, audit committee expertise (Xie et al., 2003).

2.4.1 Audit Committee Members Expertise

Audit committee members expertise refer to the knowledge, qualifications and experience a member possess. Audit committee members are classified as financial experts if they possess work experience in accounting or finance, hold a professional qualification or certification in accounting, or any experience that deals with sophisticated financial process (Felo & Solieri, 2009).

Abbot et al. (2004) defined audit committee financial expert as those who are Certified Public Accountant (CPA), venture capitalist, investment banker, controller or Chief Financial Officer (CFO); while, Agrawal and Chadha (2005) defined financial expert as those who have direct accounting or finance background (CPA and ACCA), and experience as CEO, controller, or treasurer. DeFond, Hann and Hu (2005) classified audit committee financial experts into accounting experts, financial experts, non-accounting experts, and non-financial experts. They reported a positive market reaction occurs when an accounting expert is appointed to the audit committee, whereas no market reaction occurs when non-accounting or non-financial expert is appointed.

Similarly, Krishnan and Visvanathan (2008) assorted audit committee expertise intro three main groups: 1) Financial experts are those with experience as auditor, CPA, CFO, Chief

Operating Officer (COO) or financial controller. 2) Non-accounting experts are those with experience as CEO. 3) Non-financial experts are those who do not fulfil conditions of 1 or 2. They report a positive relationship between accounting conservatism and companies that have experts (type 1) in their audit committee. In addition, Nelson and Devi (2013) divided expertise into four categories:

1- The accounting expert, is a member with professional certification on accounting, and experience in a managerial position.
2- The financial expert, is a member with professional certification on accounting, a postgraduate certification, and experience in a managerial position. The different between Type 1 and 2 is the inclusion of postgraduate qualification.
3- The non-accounting professional expert, is a member which is part of a professional body in any field except accounting bodies, has a postgraduate certification, and experience in a managerial position.
4- The non-accounting expert, is a person with postgraduate certification and managerial experience. Nelson and Devi (2013) reported the expectation of these experts to reduce the agency problem that occurs due to managers' capability to manipulate earnings.

2.4.1.1 Audit Committee Members Experience

Audit committee members experience reflects the number of years a member has in the field of accounting, finance, auditing, or any other field. It is important for audit committee members to acquire certain skills and experience to be able to discharge their duties effectively. Financial experience and knowledge of audit committee members in auditing, finance, or accounting is crucial due to the fact that most monitoring judgments are subjective, and those members will be a helpful hand to internal auditors (Mat Zain et al., 2006). To be more precise, financial experts are more likely to ask the proper questions, thus able to detect any fraud or mis-information in the financial statements. Experienced committee is crucial as it adds credibility to the financial statements (Burrowes & Hendriks, 2005) and reviews the internal audit activities and programs (Read & Raghunandan, 2001).

Prior research explains the relationship between audit committee members experience and internal control. Zhang et al. (2007) and Hoitash et al. (2009) revealed the importance of having an accounting expert on the audit committee since it is related to lower internal control issues. Similarly, Naiker and Sharma (2009) found that audit committee members with auditing experience have the ability to decrease internal control issues more effectively.

With regard to earnings management, Xie, Davidson, & DaDalt (2003); Bédard, Chtourou, & Courteau (2004); and Nelson and Devi (2013) reported that the existence of at least one member of the audit committee who has experience in auditing or accounting will defiantly lead to a decrease in the management earnings practices. Iyer, Bamber and Griffin (2012) found that experienced audit committee members in accounting or auditing are considered financial experts, therefore they contribute to limit earnings management. Salleh and Haat

(2014) concluded a negative association between audit committee members with accounting experience and earnings management.

Regarding earnings quality prior literature, Carcello, Hollingsworth, Klein and Neal (2006) found that audit committee members with accounting or auditing experience increase earnings quality in a company. Their finding is in line with Baxter and Cotter (2009) study which concluded the positive relationship between experienced audit committee members and earnings quality. Similarly, Dhaliwal, Naiker and Navissi (2010) reported that audit committees which possess accounting expertise have a positive relationship with earnings quality; however, insignificant relationship between members experience in finance and supervisory with earnings quality. On the other hand, Abdul Rahman and Ali (2006); Lin, Li and Yang (2006) reported no relationship between audit committee members accounting and auditing experience and earning quality. Their findings revealed that those members fail to prevent earnings management and improve the quality of earnings.

In internal audit function context, Alzeban (2015) found that the existence of accounting or auditing expertise in the audit committee is strongly associated with greater implementation of the suggestions and recommendations raised by internal auditors. Furthermore, Raghunandan, Read and Dasaratha (2001) reported that audit committees that comprise with a minimum of one member who possesses accounting or auditing experience are more likely to provide chief internal auditor (CIA) with private access to any necessary data, to review and understand the results and suggestions proposed by internal auditors during their review, and to arrange longer meetings with the person in charge of internal audit function.

In the context of audit report lag, Mohamad-Nor et al. (2010) study covered 628 companies listed on Bursa Malaysia in 2002 and reported a negative but insignificant relationship between audit committee members experience and audit report lag; However, Abernathy, Beyer, Masli and Stefaniak (2014) study covered U.S listed companies during the period 2006-2008 and reported a significant and negative relationship between AC members accounting experience and audit delay if this experience was gained from public accounting works and not CFO experience. Regarding interaction between audit committee and internal audit, Goodwin (2003) suggested the existence of complementary impact of members accounting experience and independence on the relationship between audit committee and internal audit. While independence is related to process issues, accounting experience is related to the extent of reviews conducted by audit committee on internal auditors' works.

Audit committee members experience was examined in prior literature in the context of internal control, earnings management, earning quality, recommendations arise from the internal audit staff, CIA assistance, audit report lag, and interaction between audit committee and internal audit. It was also studied in the context of internal audit budget Bareu et. al (2010), Alzeban (2015) and Al-Dhamari et al. (2018).

2.4.1.2 Audit Committee Members Qualifications

Audit committee members qualifications refer to their academic qualification (undergraduate or postgraduate) and professional qualification such as being a member of Association of Chartered Certified Accountants (ACCA), Certified Public Accountants (CPA) America, Certified Public Accountants (CPA) Australia, Malaysian Institute of Accountants (MIA), Malaysian Institute of Certified Public Accountants (MICPA) or Institute of Chartered Accountants in England and Wales (ICAEW). It is also significant for audit committee members to possess certain academic and professional qualifications to be able to discharge their duties effectively. Bursa Malaysia requires at least one member of the audit committee to be a member of the MIA or to have a professional qualification in the area of accounting or auditing such as ACCA or CPA qualifications. Part of the vital factors of audit committee members to be expert are certified accountants and professionally qualified because these characteristics are important to boost the committee effectiveness (Carcello, Hermanson, & Neal, 2002)

It is commonly known that the quality of financial reporting is better when the committee includes a financial expert (McDaniel, Martin, & Maines, 2002). Companies with financial issues usually do not have financial expertise in their audit committees, so the open market reacts in a positive way when a qualified or certified accountant is appointed to the committee (Davidson, Xie, & Xu, 2004). Audit committee expertise contribute to less intentional errors and unintentional mistakes in accounts (Dhaliwal et al., 2010), minimize audit effort and risks (Yatim et al., 2006) and mitigate auditor-client disputes (Salleh & Stewart, 2012).

DeZoort and Salterio (2001) found that qualified members are capable of understanding risks external auditors are willing to undertake. Thus, increasing the probability that external auditor would adopt the works performed by internal auditors (Mat Zain et al., 2006). Adel and Maisaa (2013) reported a positive impact of audit committee members knowledge on interaction between internal audit and audit committee. According to Saleh, Iskandar and Rahmat (2007); Badolato, Donalson and Ege (2014), knowledgeable committee in accounting, finance or auditing supports in reducing earnings management practices as a proxy of abnormal accruals. Regarding audit committee diligence, Maraghni and Nekhili (2014) reported that member competence measured as level of education reinforces audit committee diligence through members' attendance and number of meetings.

In the context of financial reports restatements, Abbott, Parker and Peters (2004); Agrawal and Chadha (2005); Huang and Thiruvadi (2010); Wan-Mohammad, Wasiuzzaman, Morsali and Zaini (2018) found that audit committee which includes at least one person who possesses academic or professional qualification in accounting or auditing is negatively and significantly related with the financial reports restatements. Their studies elaborate that those members have the ability to understand and recognize the financial statements, auditing issues and risks, and then provide recommendations to override these issues and risks. Sharma and Iselin (2012); Dhaliwal et al. (2010) found audit committee members expertise who are independent are associated with less financial reporting misstatements. However, Lin et al. (2006) found no association between AC members qualifications and financial reporting restatements. A possible reason for this finding is the study has been examined on 2000 (before the establishment of SOX act). Another possible reason is the small volume of sample size that covered only 106 companies in the U.S over one year.

In the context of external audit fees, Abbott et al. (2003); Vafeas and Waegelein (2007) documented audit committee that encompasses of one member who has qualifications in accounting or auditing relates positively with external audit fees. One possible reason is requesting more assurance which leads to more audit fees. Likewise, Yatim et al. (2006) found a significant and positive relationship between audit fees and committee member with accounting affiliation. In addition, Yasin and Nelson (2012) reported a positive relationship between external audit fees and audit committee members who possess postgraduate qualification.

With regard to audit report lag, Salleh et al. (2017) found no significant relationship between audit report lag and audit committee members academic or professional qualifications. They claimed that committee expertise has a relationship with shorter audit report lag if accompanied with audit committee independence. Prior research also finds a positive relationship between reducing misappropriation of assets and the existence of knowledgeable audit committee (Mustafa & Ben Youssef, 2010).

Prior studies usually examine audit committee expertise in general with different variables mentioned above in this section. This study tries to link the factors of audit committee members qualifications with internal audit budget. This can be looked at from two different perspectives. Audit committee members who possess accounting or auditing qualifications have more knowledge about internal control and risk management, so they require less assurance from internal audit department. As a result, it suggests that audit committee plays as a substitute mechanism for internal control aside with internal audit function. The other perspective looks at the other way, audit committee members with those qualifications require more assurance from internal audit department due to their desire to have better internal control. This perspective assume that audit committee members will be more cautious in overseeing the financial reporting process to safeguard their reputation.

2.5 Underpinning Theory

The theory used in the current study is the agency theory since it has the ability to foresee the effect of any changes in the organization on the effectiveness of internal audit (Adams, 1994).

2.5.1 Agency Theory

Agency theory explains the separation of ownership and control in an organization where the agents (managers) try to maximize their wealth and fulfil their interests against the interests of the owners (shareholders) (Jensen & Meckling, 1976). Agency theory also explains information asymmetry that exists because the owners do not have much access to the information needed to evaluate the managers duties (Evans & Weir, 1995). Therefore, the owners should guarantee that information asymmetry decreases and the conflict between agents and owners reduces as well (Fama & Jensen, 1983). In Malaysia, the case is a bit different because the ownership structure is not dispersed as those in the U.S and the UK but it concentrated in the hands of founding families, banks, government institutions and major corporations (Abdul Rahman & Ali, 2006; Claessens, Djannklov, & Lang, 2000). This concentrated ownership structure leads to tunneling which means majority shareholders dominate minority shareholders (La Porta, Lopez-de-Silanes, & Schleifer, 2000).

Prior researches clarified that corporate governance could be used to reduce agency problems and costs (Fama & Jensen, 1983; Akhtaruddin, Hossain, & Yao, 2009). Examples of the corporate governance that could be used within an organization is the internal audit function and audit committee. Both techniques are used to oversee the process of financial reporting which may result in reducing information asymmetry (Akhtaruddin, et al., 2009). Sarens and Abdolmohammadi (2011) argued that managers are willing to pay bonding costs (internal audit budget) to send a message to the shareholders that their work is aligned with owners' interests.

The potential correlation between audit committee expertise and investment in internal audit can be elaborated from substitution hypothesis perspective and complementary perspective. According to substitution hypothesis perspective, appointing an effective and efficient audit committee members will lead to better internal controls of the company, therefore, assurance needs by internal auditors will be reduced (Barua et al., 2010). On the other hand, complementary perspective argues that audit committee members use their expertise to request more assurance from internal auditors which lead to more investment in internal audit function. Agency theory explains the need for both variables used in this study internal audit and audit committee expertise. Agency theory tries to minimize the conflict that rises between owners and managers by assigning audit committee and internal audit. The cost of both mechanisms increases the agency costs of terminating this conflict.

2.6 Summary of the Chapter

This chapter elaborates the concept of corporate governance and its importance to companies and countries in general. It also discusses the efforts performed by the Malaysian authorities towards corporate governance excellence and gain investors trust on the Malaysian capital markets. Then, this chapter provides literature review on audit committee members expertise and internal audit function. Moreover, it discusses the underlying theory that is related to this study to investigate the possible link between internal audit budget and audit committee members expertise.

CHAPTER THREE

METHODOLOGY

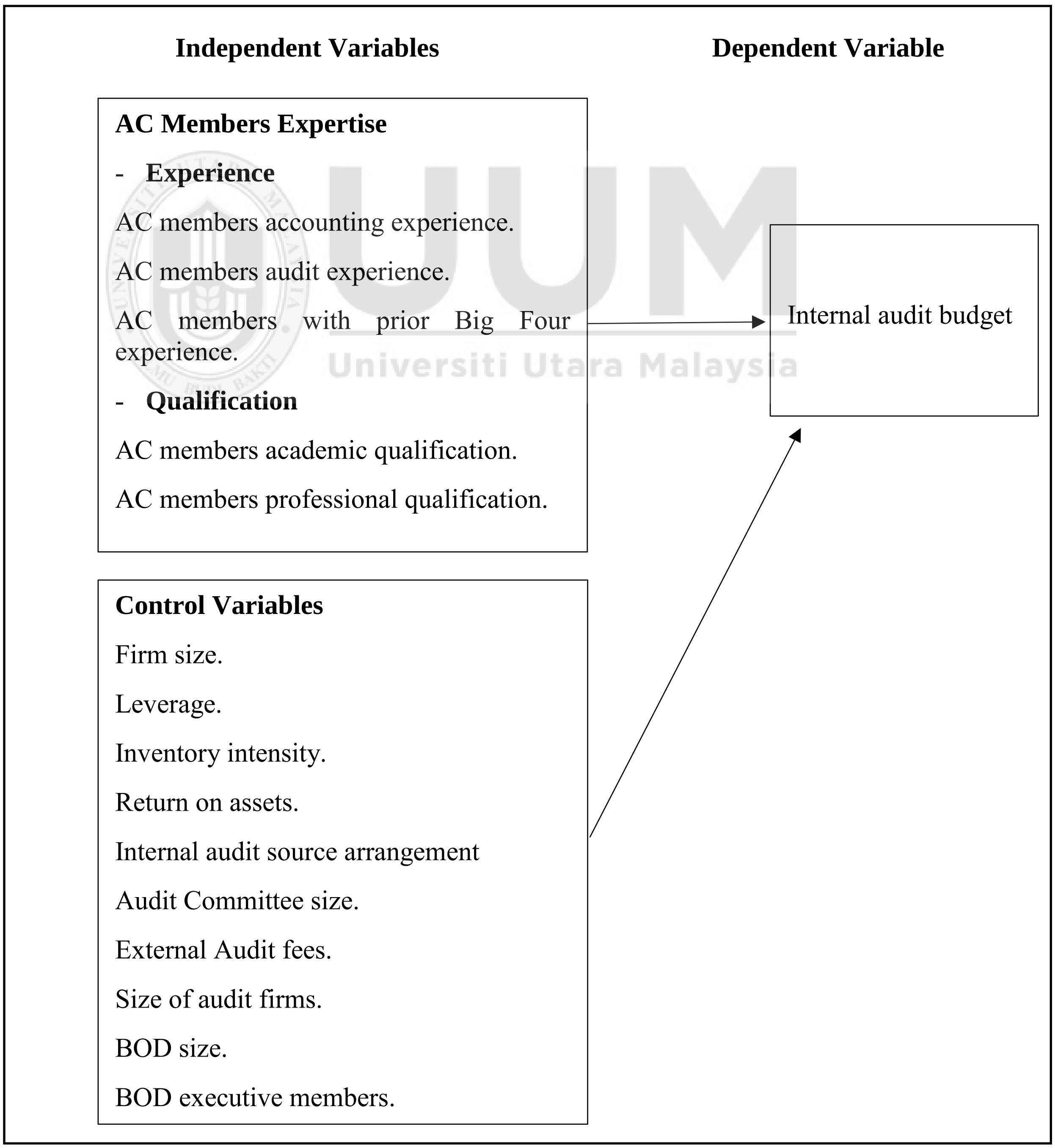
3.1 Introduction

The main objective of this chapter is to explain the methods employed and carried out in this study. A proper methodology is essential for the reliable completion of the research paper. This chapter is organized as follows: section 3.2 explains the research framework based on literature review conducted by the researcher. In section 3.3, hypotheses development is organized. Section 3.4 depicts research design. In section 3.5, the study provides how independent, dependent and control variables were assessed and measured. Section 3.6 depicts the research model, while section 3.7 explains the procedures of data collection that researcher used throughout the research. Section 3.8 describes the population and the way sample is selected. Section 3.9 discusses the procedures used to examine the hypotheses and this chapter is concluded with section 3.10.

3.2 Research Framework

The study's framework and model were mainly developed based on prior studies and literature that examined internal audit budget such as Barua et al. (2010) and Al-Dhamari et al., (2018). It was built to show the link between independent variables which represent the characteristics of audit committee members expertise (experience and qualification) and dependent variable which is represented by internal audit budget. Furthermore, determinants such as firm size, leverage, inventory intensity, Return on Assets (ROA), internal audit sources arrangement, audit committee size, external audit fees, size of audit firms, BOD size and BOD executive members are considered control variables in this study. The relationship between the DV and IVs is supported by the argument from agency theory perspective. Figure 3.1 shows the independent variables and dependent variable in this study.

Figure 3.1
Research Framework



3.3 Hypotheses Development

Various hypotheses have been developed to serve the objectives of this study. This study includes internal audit budget as dependent variable and AC members experience and qualifications as independent variables**.**

3.3.1 Audit Committee Members Experience and Internal Audit budget.

The accounting and auditing experience of audit committee members are important characteristics that impact the efficiency of AC in monitoring and controlling the financial reporting process. According to Baxter and Cotter (2009), AC members experience is considered a crucial factor of the effectiveness of audit committee operations. The existence of professionals in the AC supply customers with value by taking out deceptive activities form the corporation (Schmidt & Wilkins, 2012). In the U.S, the Sarbanes-Oxley act (2002) required all US listed firms to have at least one member who has financial reporting experience in the AC.

Prior literature documented that experienced audit committee members ensure a better earnings quality (e.g. Carcello et al., 2006; Baxter and Cotter, 2009; Dhaliwal et al., 2010), mitigate earnings management activities (e.g. Xie et al., 2003; Bédard et al., 2004; Iyer et al., 2012; Nelson & Devi, 2013; Salleh & Haat, 2014), decrease internal control issues (e.g. Zhang et al., 2007; Hoitash et al., 2009; Naiker & Sharma, 2009), and shorten audit report lag (e.g. Mohamad-Nor et al., 2010; Abernathy et al., 2014). These results support agency theory arguments that explains the importance of an experienced audit committee member to minimize the conflict that rises between agents and principles through ensuring the credibility and trustworthiness of financial reports and ensuring that internal and external auditors are performing in-line with the owners' interests.

Consequently, two competing perspectives explain the relationship between audit committee members experience and investment in internal audit function. The first one argues that experienced audit committee members in accounting or auditing, to have their reputation protected, are more careful in safeguarding the process of financial reporting (Persons, 2009). Audit committee members with accounting or auditing experience have a better understanding of accounting issues and they have a better ability to reveal management errors and frauds which might lead to additional work for the internal auditors (Barua et al., 2010). Prior literature proves that AC with accounting or auditing experience are more likely to produce more audit quality which results in more internal audit budget (Abbot el al., 2003; Carcello et al., 2006; Goodwin-Stewart & Kent, 2006; Vafeas & Waegelein, 2007; Dhaliwal et al., 2010;). Therefore, there is a positive correlation between audit committee members experience and investment in internal audit.

The second perspective argues that the existence of accounting or auditing experts in AC develops the internal control system effectiveness and financial report quality which lead to reducing the need for additional works done by internal audit department. Zhang et al. (2007), Hoitash et al. (2009) and Naiker and Sharma (2009) found that audit committee members with auditing experience have the ability to decrease internal control issues more effectively. Furthermore, Barua et al. (2010) study showed that audit committee members experience leads to a decrease in internal audit budget. Since there are two competing perspectives regarding AC members experience, this paper states non-directional hypotheses:

Ha1: There is a significant relationship between AC experience in accounting and internal audit budget.

Ha2: There is a significant relationship between AC experience in audit and internal audit budget.

Ha3: There is a significant relationship between AC members who have worked at BIG Four and internal audit budget.

3.3.2 Audit Committee Members Qualifications and Internal Audit budget.

To have an effective financial reporting process, AC members with academic and professional qualifications are considered important for the company. Bursa Malaysia required at least one member of the audit committee to be a member of the Malaysian Institute of Accountants (MIA) or to have a professional qualification in the area of accounting or auditing such as ACCA and CPA qualifications. There is an argument among researchers that investors tend to be attracted towards companies that have many experts in the audit committee. This is because qualified members have the ability to understand and recognize the usage of generally accepted accounting standards and scrutinize financial statements (Carcello, Hermanson, & Ye, 2011).

Persons (2009) study showed that those AC independent members with a background in accounting or auditing can discover financial reports mistakes and any manipulations done by the management to satisfy their own code of ethics and safeguard their reputation. Prior literature documented that qualified audit committee members mitigate earnings management (e.g. Saleh et al., 2007; Badolato et al., 2014) reduce the incident of financial report restatements (e.g. Abbott et al., 2004; Huang & Thiruvadi, 2010; Wan-Mohammad et al., 2018) and minimize misappropriation of assets (e.g. Mustafa & Ben Youssef, 2010)

There are two different viewpoints that explain the relationship between AC members qualifications and internal audit budget since these qualifications might impact the number of resources available for internal audit function. The first viewpoint argues that those members are more likely to require internal auditors to perform additional works in order to provide more assurance about the financial reports. Abbott et al. (2003); Vafeas and Waegelein (2007) found that audit committee that encompasses of one member who has qualifications in accounting or auditing relates positively with audit fees. One possible reason is the asking for more assurance which leads to more audit fees. In addition, Yasin and Nelson (2012) found that a positive relationship exists between external audit fees and audit committee members who possess postgraduate qualification. Therefore, there is a positive correlation between audit committee members qualifications and investment in internal audit.

The other viewpoint argues that those members will most likely provide the company more assurance about their financial report process and they will reduce earnings management and increase earnings quality which may lead to lower internal audit budget. Naiker and Sharma (2009) and Zhang et al. (2007) found that audit committee members with accounting or auditing qualifications have the ability to decrease internal control issues more effectively. Furthermore, Barua et al. (2010) study showed that audit committee members qualifications lead to a decrease in internal audit budget. Since there are two competing viewpoints regarding AC members qualifications, the following non-directional hypotheses are stated:

Ha4: There is a significant relationship between AC members academic qualification and internal audit budget.

Ha5: There is a significant relationship between AC members professional qualification and internal audit budget.

3.4 Research Design

Data is collected from the annual reports of top 100 companies listed in Bursa Malaysia through the period of 2015-2017 and Datastream as well based on market capitalization. The collected data will be analyzed using the descriptive, correlation and regression analysis. Further, diagnostic tests are carried out to ensure the reliability of the results.

3.5 Measurement of Variables

Independent, dependent and control variables are measured as follows:

3.5.1 Dependent Variable

Internal Audit Budget (IAB) is measured by the cost and expenses paid to conduct internal audit function (Barua et al., 2010; Alzeban, 2015).

3.5.2 Independent Variables

3.5.2.1 Audit Committee Members Experience refers to members experience in different sectors that is considered important to internal audit function such as accounting, auditing, and prior BIG Four experience.

Audit Committee Members Accounting Experience (ACACCEXP) is operationalized as the proportion of experienced audit committee members in accounting to the total number of audit committee members. AC members accounting experience includes working in accounting department, Chief Accounting Officer, CFOs, financial controller, etc. (Nelson & Devi, 2013; Maraghni & Nekhili, 2014).

Audit Committee Members Auditing Experience (ACAUDEXP) is measured as the proportion of experienced audit committee members in auditing to the total number of audit committee members. AC members auditing experience encompasses the ability to prepare financial statements and audit the records. It involves working as external auditor or internal auditor for a public accounting firm (Naiker & Sharma, 2009).

Audit Committee Members with Prior BIG Four Experience (ACBG4EXP) is measured as the percentage of audit committee members who worked at BIG Four audit firms to the total number of audit committee members. The BIG Four audit firms are Deloitte, PricewaterhouseCoopers (PWC), KPMG & EY.

3.5.2.2 Audit Committee Members Qualifications refer to members academic and professional qualifications in the areas of accounting, auditing or finance.

Audit Committee Members Academic Qualification (ACAQ) is operationalized as the percentage of audit committee members possessing academic qualification (e.g. undergraduate of postgraduate) to the total number of audit committee members. (Yasin & Neslson, 2012; Maraghni & Nekhili, 2014).

Audit Committee Members Professional Qualification (ACPQ) is assessed based on a proportion of audit committee members who possess professional qualification in accounting to the total number of audit committee members. Professional qualification includes possessing a certificate of (ACCA, CPA America, CPA Australia, etc.). It also includes being a member of a professional accounting or auditing body such as MIA, MICPA, International Federation of Accountants (IFAC), ICAEW, ACCA, etc. (Yasin & Neslson, 2012).

3.5.3 Control Variables:

The current study includes firm size, leverage, inventory intensity, ROA, internal audit sources arrangement, audit committee size, external audit fees, Big Four- non-Big Four external auditor, BOD size and BOD executive members as control variables. These variables were proved to have significant influence on internal audit budget in prior studies (e.g. Al-Dhamari et al., 2018; Alzeban, 2015; Yasin & Neslson, 2012; Barua et al., 2010; Carcello, et al., 2005). This subsection provides a discussion on how to measure these variables.

Firm Size (FSIZE) is assessed based on the book value of the company's total assets. (Carcello et al., 2005; Zhang et al., 2007; Abbott et al., 2010; Alzeban, 2015). The larger the company's size, the more a company invests in internal audit function.

Leverage (LVG) is assessed by dividing total debt by total assets (Jenkins, Kane, & Velury, 2006; Gul, Fung, & Jaggi, 2009). Previous literature found that a higher proportion of debt leads to investing more in internal audit (Carcello et al., 2005). Therefore, there is a positive relationship between leverage and internal audit budget.

Inventory Intensity (INVINT) is measured using the ratio of total inventory to total current assets (Goodwin-Stewart & Kent, 2006). This ratio has been utilized to show the complexity of company's operations (Abbot et al., 2010). It has been proved that a positive relationship between firm complexity and internal audit budget exists (Carcello et al., 2005).

Return on Assets (ROA) is operationalized using the ratio of Return on Assets (ROA). This ratio has been used to display the firm's strength (Oussii & Taktak, 2018). It is assumed that stronger firms with higher ROA tend to invest more in internal audit.

Internal Audit Source Arrangement (IASOUA) is measured using a dummy variable which 1 means IAF is being organized outsourced and 0 means IAF is being organized in-house (Barua et al., 2010; Yasin & Neslson, 2012; Al-Dhamari et al., 2018). Previous literature showed that outsourced internal audit has a negative relationship with internal audit budget (Carcello et al., 2005; Barua et al., 2010). Outsourced internal audit provides a more independent internal audit function with less costs.

Audit Committee Size (ACSZE) is measured by the audit committee members number (Klein, 2002; Zhang et al., 2007; Adel & Maisaa, 2013; Al-Dhamari et al., 2018). Al-Dhamari et al. (2018) found a positive relationship between AC size and internal audit budget.

External Audit Fees (EAF) is measured by the cost paid to conduct external audit function (Barua et al., 2010). The more a company invests in external audit, the less it invests in internal audit function.

Size of Audit Firms (SZEA) is operationalized by using a dummy variable where it takes a value of 1 if the firm's external auditor is one of the BIG Four and the value of 0 otherwise (Goodwin-Stewart & Kent, 2006). BIG Four audit firms provide a high quality of audit function. They also help to develop a firm's internal control and financial reporting process (Goodwin-Stewart & Kent, 2006). Therefore, this study expects a negative relationship between using one of the BIG Four audit firms and investment in internal audit.

Board of Directors Size (BODSZE) is measured by the number of board of director's members (Nelson & Devi, 2013). A greater size of BOD provides better controlling and oversight over the management which leads to more internal audit works (Stewart & Munro, 2007). Therefore, a positive relationship between BOD size and internal audit budget is expected.

Board of Directors Executive Members (BODEXC) is measured as percentage of executive members of the BOD to the total number of BOD (Nelson & Devi, 2013). This study predicts a negative relationship between more BOD executive members and internal audit budget.

3.6 Operational Model

Multiple regression analysis is used to examine the relationship between audit committee members expertise (experience and qualification) and internal audit budget. The Following model represents the operational model of this study:

$$IAB = \beta 0 + \beta 1\ ACACCEXP + \beta 2\ ACAUDEXP + \beta 3\ ACBG4EXP + \beta 4\ ACAQ + \beta 5\ ACPQ + \beta 6\ FSIZE + \beta 7\ LVG + \beta 8\ INVINT + \beta 9\ ROA + \beta 10\ IASOUA + \beta 11\ ACSZE + \beta 12\ EAF + \beta 13\ SZEA + \beta 14\ BODSZE + \beta 15\ BODEXC + \varepsilon$$

Table 3.1 summarizes the variables used in this study and how each variable is measured.

Table 3.1
Summary of the Variables Measurements Used in This Study

Variables	Acronym	Measurement	Expected Sign	Prior Studies
Internal Audit budget	IAB	The cost to conduct internal audit function.		Barua et al. (2010); Al-Dhamari et al. (2018)
Audit Committee Members Accounting Experience	ACACCEXP	The proportion of experienced audit committee members in accounting to the total number of audit committee members.	?	Barua et al. (2010)
Audit Committee Members Auditing Experience	ACAUDEXP	The proportion of experienced audit committee members in auditing to the total number of audit committee members.	?	Barua et al. (2010)
Audit Committee Members with Prior BIG Four Experience	ACBG4EXP	The proportion of audit committee members who have worked with BIG Four audit firms to the total number of audit committee members.	?	Basioudis (2007)

Audit Committee Members Academic Qualification	ACAQ	The proportion of audit committee members who possess academic qualification in accounting to the total number of audit committee members.	?	Al-Dhamari et al. (2018)
Audit Committee Members Professional Qualification	ACPQ	The proportion of audit committee members who possess professional qualification in accounting to the total number of audit committee members.	?	Al-Dhamari et al. (2018)
Firm Size	FSIZE	The book value of the company's total assets.	+	Barua et al. (2010)
Leverage	LVG	Dividing total debt by total assets.	+	Barua et al. (2010)
Inventory Intensity	INVINT	Total inventory to total current assets.	+	Barua et al. (2010)
Return on Assets	ROA	Return on Assets	+	
Internal Audit Source Arrangement.	IASOUA	Dummy with a value of 1 if outsourced and 0 if in-house.	-	Al-Dhamari et al. (2018)
Audit Committee Size	ACSZE	Audit committee members number.	+	Al-Dhamari et al. (2018)
External Audit Fees	EAF	The cost to conduct external audit function.	-	Carcello et al. (2005)
Size of Audit Firms	SZEA	Dummy with a value of 1 if external auditor is one of the BIG Four, otherwise 0.	-	Carcello et al. (2005)
Board of Directors Size	BODSZE	BOD members number.	+	Stewart & Munro (2007)

Board of Directors Executive Members.	BODEXC	Percentage of executive directors to the total number of BOD members.	-	Nelson & Devi (2013)

3.7 Data Collection

Secondary data were used to conduct this study. Annual reports of public listed firms in Bursa Malaysia were used to extract data concerning internal audit, audit committee, external audit and board of director variables. Internal audit data were found under Internal Audit Function section in annual reports. AC variables data were found under board of directors' profile. External audit fees were extracted from the financial statements notes, while size of audit firm data was found at corporate information section. BOD data were found at corporate information and BOD's profile sections. Other financial data such as leverage, inventory intensity, firm size and ROA was extracted from Datastream. Datastream is a financial database that provides ready financial data of listed companies worldwide including Malaysia.

3.8 Sample of Study

3.8.1 Population

The targeted population is Malaysian listed companies in Bursa Malaysia based on 2017 market capitalization. According to Bursa Malaysia website, the number of Malaysian listed companies in Bursa Malaysia is 924 company. The target population is tested over three-years period – from 2015 to 2017.

3.8.2 Sample Size and Period of Study

The sample of this study includes the top 100 firms listed in Bursa Malaysia based on 2017 market capitalization over three-years period – from 2015 to 2017-. The top 100 companies were selected after extracting financial companies, real estate investment trust companies and newly listed companies. The reason for starting on 2015 was due to the consideration that it is a recent year after the establishment of MCCG (2012) with its suggestions for audit committees in companies. 2017 was the end year because it is the latest year with available published data and annual reports on Bursa Malaysia. Moreover, it is the year after establishing the newly reviewed MCCG (2017).

The author selected the top 100 companies because they are more likely to provide sufficient data on audit committee and internal audit. The companies have well established internal audit and AC functions. Financial companies which include banks, insurance companies, investment funds, stock brokerages and consumer-finance companies were excluded since they have different corporate governance rules and procedures regarding to internal audit and audit committee. Real Estate Investment Trust (REITs) companies were also extracted since they have similar characteristics to financial companies. Companies that have incomplete annual reports, missing data, or their financial year is longer than 12 months were also extracted.

3.9 Data Analysis

The main purpose of the current paper is to study the relationship between audit committee members expertise and internal audit budget. To investigate the hypothesized association, the study utilized various statistical tests. First, the descriptive statistics analysis (minimum, maximum, mean, and standard deviation) is performed to depict the characteristics of the sample under study. Second, this study conducts assumption tests to give insight about normality, autocorrelation and heteroscedasticity of data. Third, correlation analysis was performed to figure out which variable has a strong or weak correlation with the dependent variable and to figure out the multicollinearity among control and independent variables. Finally, this study uses multiple regression analysis to examine the relationship between the dependent and independent variables. Data is processed and analyzed using Stata software.

3.10 Chapter Summary

This chapter provides the study's framework which explains the developed hypotheses to test the relationship between audit committee members expertise and internal audit budget. Five hypotheses were developed to fulfil the needs to study this highly significant association. Then, this chapter briefly depicts how each variable (dependent, independent and control) is measured. The chapter also explains research design, data collection procedure, population and the sample of the study. Finally, it depicts the analysis techniques that will be used in Chapter 4 to examine the data extracted from annual reports.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

The main purpose of this chapter is to provide a discussion and analysis on the findings of the study. The remaining of this chapter is organized as follows. Section 4.2 reports the descriptive statistics of the variables. In section 4.3, model specification tests and diagnostic tests are presented. Section 4.4 presents, discusses and analyzes the main findings of this study. Section 4.5 provides additional tests to examine the robustness of the results and to make sure the main analysis has been carried out properly. Finally, section 4.6 concludes.

4.2 Descriptive Analysis

Descriptive statistics provides real information about each variable tested in the current study. One main advantage of descriptive analysis is enabling the researcher to comprehend the data and to profile it accordingly. Table 4.1 depicts the sample firms after classifying them to different sectors based on Bursa Malaysia categorization. Trading and services sector represents the highest ratio among the sectors tested with a percentage of 36%. Consumer product and Industrial product sectors follow with a percentage of 14% each.

Table 4.1

Sample Companies After Bursa Malaysia Sector Classification

Industry	**No. of companies**	**No. of company-years**	**Percentage (%)**
Trading/services	36	108	36%
Consumer product	14	42	14%
Industrial product	14	42	14%
Plantation	11	33	11%
Properties	10	30	10%
Construction	6	18	6%
Infrastructure (IPC)	4	12	4%
Technology	4	12	4%
Hotels	1	3	1%
Total	100	300	100%

Table 4.2

Descriptive Statistics of Variables

Variable	**Mean**	**Sd**	**Min**	**Max**	**Median**
IAB	2,607,697	4,927,252	7,500	44,200,000	1,058,038
ACACCEXP	0.296	0.214	0	0.750	0.333
ACAUDEXP	0.214	0.224	0	1	0.250
ACBG4EXP	0.181	0.187	0	0.667	0.200
ACAQ	0.194	0.203	0	0.750	0.225
ACPQ	0.388	0.185	0	1	0.333
FSIZE (RM'000)	13,293,609	13,293,610	158,406	1,144,208,900	4,381,369
LVG (%)	25.544	16.991	0	68.500	26.970
INVINT (%)	22.255	19.069	0	78.480	19.615
ROA (%)	8.937	9.899	-17.440	75.320	6.125
IASOUA	0.157	0.364	0	1	0
ACSZE	3.510	0.667	3	5	3
EAF	1,378,797	1,617,555	63,500	10,029,000	733,500
SZEA	0.853	0.354	0	1	1
BODSZE	8.923	1.943	5	15	9
BODEXC	0.279	0.187	0	0.820	0.250

Notes: IAB: the cost to conduct internal audit function, ACACCEXP: the proportion of experienced audit committee members in accounting, ACAUDEXP: the proportion of experienced audit committee members in auditing, ACBG4EXP: the proportion of audit committee members who have worked with BIG Four audit firms, ACAQ: the proportion of audit committee members who possess academic qualification in accounting, ACPQ: the proportion of audit committee members who possess professional qualification in accounting, FSIZE: the book value of the company's total assets, LVG: dividing total debt by total assets, INVINT: total inventory to total current assets, ROA: return on assets, IASOUA: 1 if outsourced and 0 if in-house, ACSZE: audit committee members number, EAF: the cost paid to external auditor for statutory audit, SZEA: 1 if external auditor is one of the BIG Four, otherwise 0, BODSZE: BOD members number, BODEXC: percentage of executive directors.

Table 4.2 provides descriptive statistics for all variables examined in the current study. Internal audit budget shows a minimum (min) of Malaysian Ringgit (RM) 7,500, a maximum (max) of (RM) 44,200,000 and a mean of (RM) 2,607,697. The average value of audit committee accounting experience (ACACCEXP) is 30% meaning that 1/3 of audit committee members are accounting experienced and the max is 75% of audit committee. Audit committee auditing experience (ACAUDEXP) has a max of 100% and a mean of 21%, indicating that some companies have full committee with auditing experience and almost 1/5 of audit committee members have auditing experience. Barua et al. (2010) study descriptive analysis shows that 14% of audit committee members have auditing experience.

Moreover, table 4.2 shows that Audit committee members who possess BIG Four experience (ACBG4EXP) have a max of 67% and almost 1/5 of audit committee members have worked at BIG Four audit firms. Audit committee members academic qualification (ACAQ) represents almost 20% of audit committees, while audit committee members professional qualification (ACPQ) represents 39% of audit committees. In this context, Al-Dhamari et al. (2018) descriptive statistics reveals that 33% of audit committee members have qualifications. The descriptive analysis shows that ACACCEXP, ACAUDEXP, ACBG4EXP, ACAQ and ACPQ have a min of 0% indicating that some companies have no audit committee members who acquire experience nor qualifications.

For control variables, table 4.2 shows the mean of firm's size (FSIZE) as almost RM 13.3 billion and a min (max) of RM 158 (1,144,209) million. Leverage, measured as total debt to total assets, has a mean of 25.54% and ranges between 0% and 68.5%. The min (max) of inventory intensiveness (INVINT) is 0% (78.48%) with an average of 22.26%. Return on assets (ROA) has an average of 8.94% with a min of -17.44% and a max of 75.32%. Internal audit source arrangement (IASOUA) is 16% outsourced and 84% is performed in-house. Barua et al. (2010) found 14% of companies outsource internal audit function to a third party. The results suggest that most companies have developed their own internal audit department perhaps to keep secret information within the company. The average number of audit committee size (ACSZE) is approximately 4 members and a range of 3 and 5 members. Similarly, Alzeban and Sawan (2015) found the average of audit committee size to be 4 members.

External audit fees (EAF) ranges between RM 63,500 and RM 10,029,000, the mean is RM 1,378,797. The average of companies that uses BIG Four companies as represented by size of external auditor (SZEA) is approximately 85%. The results suggest that most firms use BIG Four audit firms for external audit fees to ensure audit quality. Another reason is due to the sample of the study that consists of the top 100 companies which preferably employ big audit firms. Board of directors contains of a min of 5 members and a max of 15 members, the mean is nearly 9 members. Wan-Mohammad et al. (2018) found the average of board of director's members to be 8 members which is close to the value presented by the current study. Finally, the average of executive members of board of directors (BODEXC) is 28% with a min of 0% and a max of 82%.

4.3 Diagnostic Tests

Diagnostic tests are usually performed before coming up to the main analysis to ensure valid results and avoid deluded findings. This section begins with diagnostic tests that are related to distribution of data such as normality and multicollinearity. Then, this section provides model specification tests to choose between Pooled ordinary least square (OLS) regression, random effects or fixed effects. Finally, this section provides diagnostic tests that are related to the panel data of this study such as heteroscedasticity, autocorrelation and cross-sectional dependency.

4.3.1 Data Distribution Diagnostic Tests

4.3.1.1 Normality

Normality refers to the way data is distributed. Normality is not important for the estimation of regression coefficients; however, it is mandatory to be carried out for hypothesis testing (Hair, Black, Babin, & Anderson, 2013). There are various methods that could be employed to check data normality such as Kamagorov-Smiron, Shapiro-Francia and Shapiro-Wilk tests. The current study uses Kamagorov-Smiron test by obtaining skewness and kurtosis values to test for normality. According to Kline (2011), skewness values should be less than 3, while kurtosis should not exceed 10. Table 4.3 displays the skewness and kurtosis values of all variables tested in this study.

Table 4.3
Results of Normality Test

Variables	Skewness	Kurtosis
IAB	-0.382	3.092
ACACCEXP	0.247	2.507
ACAUDEXP	0.752	2.929
ACBG4EXP	0.575	2.525
ACAQ	0.639	2.552
ACPQ	0.820	3.975
FSIZE	0.076	2.508
LVG	0.248	2.141
INVINT	0.656	2.552
ROA	1.488	6.115
IASOUA	1.889	4.569
ACSZE	0.946	2.720
EAF	0.112	2.334
SZEA	-1.998	4.990
BODSZE	0.426	2.639
BODEXC	0.522	2.442

Notes: please see Table 4.2 For variable definitions.

IAB, FSIZE, ROA and EAF reported high values of skewness and kurtosis. As a result, this study transforms IAB, FSIZE and EAF to natural logarithm (log) to reduce normality issue. Furthermore, the current study winsorizes ROA to normalize it. It can be noticed from Table 4.3 that all variables have a skewness value between 3 and -3, and a kurtosis value between 10 and -10 which indicates all variables are normally distributed. Table 4.4 displays the descriptive analysis of the modified variables.

Table 4.4
Descriptive Statistics of Modified Variables

Variable	Mean	Sd	Min	Max	Median
LOGIAB	13.77448	1.540	8.923	17.604	13.872
LOGFSIZE	15.554	1.338	11.973	18.787	15.293
LOGEAF	13.581	1.070	11.059	16.121	13.506
ROA	8.790	8.879	-11.710	42.730	6.125

4.3.1.2 Multicollinearity

Multicollinearity refers to the problem of high correlation among independent and control variables that would mislead the regression results. The existence of multicollinearity in a model tends to reduce the reliability of regression findings (Hair et al., 2013). Two main techniques are employed in the current study to test multicollinearity: correlation matrix and Variance Inflation Factor (VIF). It is commonly argued that performing one of these tests to check for multicollinearity is not enough, so it is important to carry out both tests (Hamilton, 2012). The problem of multicollinearity exists when the value of VIF of each variable is more than 10 (Hair et al., 2013). Table 4.5 displays the results of VIF test.

Table 4.5
Results of VIF Test

Variable	VIF	1/VIF
ACACCEXP	1.270	0.786
ACAUDEXP	1.580	0.632
ACBG4EXP	1.180	0.849
ACAQ	1.220	0.818
ACPQ	1.880	0.533
FSIZE	3.680	0.272
LVG	1.340	0.745
INVINT	1.090	0.914
ROA	1.590	0.630
IASOUA	1.420	0.705
ACSZE	1.320	0.757
EAF	3.420	0.292
SZEA	1.240	0.810
BODSZE	1.300	0.770
BODEXC	1.390	0.717
Mean VIF	1.660	

Note: FSIZE: the natural log of company's total assets, ROA: return on assets after winsorizing, EAF: the natural logarithm of external audit fees. Other variables are previously defined.

The results of Table 4.5 show no variable with a score of 10 or more, indicating the absence of multicollinearity issue. The highest VIF score is 3.68 for firm size (FSIZE) and the next highest goes for external audit fees (EAF) with a VIF value of 3.42.

In addition, to provide assertions to the results provided by VIF test, the current study employs correlation matrix to test for multicollinearity as well. Two correlation matrixes were carried out: namely Pearson test and Spearman test. The problem of multicollinearity in the previous tests exist when correlation between variables exceed 0.9 (Hair et al., 2013; Tabachnick & Fidell, 2006). Table 4.6 displays the results for Pearson test. The highest value goes for the correlation between firm size (FSIZE) and external audit fees (EAF) with a score of 0.810 and the second highest value goes for the correlation between internal audit budget (IAB) and Firm size (FSIZE) with a score of 0.756. All results are under the value of 0.9 which indicates the absence of multicollinearity. Table 4.7 depicts the results of Spearman test. All values are under the standard value of 0.9 which again indicates the absence of multicollinearity issue. However, further analysis will be performed to ensure multicollinearity is not an issue in the study.

Table 4.6
Pearson Correlation Matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
IAB (1)	1															
ACACCEXP (2)	0.212	1														
ACAUDEXP (3)	-0.055	0.076	1													
ACBG4EXP (4)	0.026	0.018	0.034	1												
ACAQ (5)	-0.048	0.319	0.019	0.134	1											
ACPQ (6)	-0.017	0.239	0.561	0.280	0.197	1										
FSIZE (7)	0.756	0.093	-0.020	-0.032	0.018	0.018	1									
LVG (8)	0.218	0.129	-0.031	-0.056	0.043	-0.045	0.442	1								
INVINT (9)	-0.161	-0.026	0.029	0.075	0.034	0.037	-0.102	-0.039	1							
ROA (10)	-0.380	-0.045	0.008	0.074	-0.122	-0.020	-0.530	-0.364	-0.016	1						
IASOUA (11)	-0.572	-0.080	-0.083	-0.009	0.036	-0.069	-0.427	-0.174	0.080	0.244	1					
ACSZE (12)	0.171	0.090	-0.131	-0.079	-0.043	-0.175	0.123	0.078	-0.218	0.007	-0.096	1				
EAF (13)	0.711	0.129	-0.064	0.081	-0.015	0.076	0.810	0.372	-0.071	-0.491	-0.404	0.003	1			
SZEA (14)	0.272	0.166	0.094	0.082	0.049	0.161	0.141	0.066	-0.045	-0.063	-0.288	0.035	0.154	1		
BODSZE (15)	0.188	0.177	0.000	-0.034	0.033	0.099	0.273	0.242	-0.007	-0.289	-0.044	0.239	0.188	0.003	1	
BODEXC (16)	-0.399	-0.050	0.018	0.054	0.024	0.075	-0.116	0.054	0.212	0.015	0.297	-0.303	-0.043	-0.319	0.070	1

Please refer to Table 4.2 and 4.5 for variables definitions.

Table 4.7
Spearman Correlation Matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
IAB (1)	1															
ACACCEXP (2)	0.177	1														
ACAUDEXP (3)	-0.073	0.068	1													
ACBG4EXP (4)	0.034	-0.017	-0.039	1												
ACAQ (5)	-0.032	0.273	0.016	0.130	1											
ACPQ (6)	-0.034	0.239	0.478	0.301	0.186	1										
FSIZE (7)	0.745	0.075	0.009	-0.043	0.005	0.042	1									
LVG (8)	0.216	0.130	0.010	-0.066	0.016	-0.028	0.472	1								
INVINT (9)	-0.187	0.016	0.011	0.111	0.071	0.058	-0.090	-0.050	1							
ROA (10)	-0.421	-0.048	0.040	0.053	-0.067	-0.051	-0.578	-0.423	-0.055	1						
IASOUA (11)	-0.506	-0.089	-0.086	-0.008	0.001	-0.107	-0.423	-0.197	0.088	0.239	1					
ACSZE (12)	0.196	0.026	-0.110	-0.120	-0.066	-0.271	0.133	0.061	-0.196	0.043	-0.101	1				
EAF (13)	0.714	0.120	-0.033	0.068	-0.033	0.119	0.800	0.411	-0.037	-0.545	-0.402	0.017	1			
SZEA (14)	0.212	0.174	0.118	0.062	0.033	0.209	0.115	0.080	-0.059	-0.078	-0.288	0.048	0.157	1		
BODSZE (15)	0.142	0.172	0.019	-0.057	0.000	0.045	0.240	0.233	0.021	-0.253	-0.035	0.223	0.173	0.025	1	
BODEXC (16)	-0.420	-0.065	-0.065	0.059	-0.016	0.018	-0.158	0.018	0.237	0.059	0.303	-0.327	-0.073	-0.319	-0.005	1

Please refer to Table 4.2 and 4.5 for variables definitions.

4.3.2 Model Specification Tests

To choose the proper test for a model, different assumptions should be confirmed to generate correct outcomes. The selection of appropriate model mainly relies on various tests and assumptions (Baltagi, 2013). The current study employs panel data that could be analyzed in three different ways: namely, pooled OLS regression, fixed effects model and random effects model. Panel data enhances the quantity and quality of data and reinforce empirical analysis by combining cross-sections with time series. Pooled OLS regression is usually used when there are not significant temporal nor spatial effects (Stock & Watson, 2010). Fixed effects model is emplyed where there are constant slopes with intercepts that differ according to cross-sectional (group) firms (Greene, 2012). Random effects model is a function of random error and a mean value (Greene, 2012). To choose the accurate model for the current study, various tests are carried out as follows.

4.3.2.1 Choosing Between Pooled OLS Regression and Random Effect Model

The first test to be carried out in order to choose the accurate model is Breusch–Pagan-Lagrangian-Multiplier test for random effects (LM). This test helps in choosing between pooled OLS regression and random effect model. The null hypothesis in LM test is that differences across companies are zero which means there is not any variance among firms (no panel effect). If the p-value (Prob > chibar2) is larger than 0.05, then the null hypothesis is accepted, and pooled OLS regression should be employed. However, if the p-value (Prob > chibar2) is less than 0.05 then the null hypothesis is not supported, and random effect model should be used (Greene, 2012).

Table 4.8 represents the results of LM test indicating a significant p value (less than 0.05). The null hypothesis is rejected because there is an evidence of variances across firms. The appropriate model to be utilized is random effect model (Breusch & Pagan, 1980; Gujarati, 2015).

Table 4.8
Results of Breusch and Pagan Lagrangian Multiplier Test

	IAB
Chibar2(01)	186.30
Prob > chibar2	0.0000
H0(null)	Not supported

4.3.2.2 Choosing Between Random Effect Model and Fixed Effect Model

The proper examination to choose between fixed effects and random effects is the Hausman specification test. The null hypothesis states that the individual influences are not correlated with the other model's regressors. If the p-value (Prob > chibar2) is larger than 0.05, then the null hypothesis is supported, and it is secure to employ random effect model. However, if the p-value (Prob > chi2) is smaller than 0.05 then the null hypothesis is rejected, and we should use fixed effect model (Stock & Watson, 2010; Greene, 2012). In Table 4.9, the outcome reveals a significant p value less than 0.05 level. The null hypothesis is not supported; therefore, the appropriate model to be utilized is fixed effect model (Gujarati, 2015).

Table 4.9
Results of Hausman Specification Tests

	IAB
Chi2(15)	74.44
Prob>chi2	0.0000
H0(null)	Not supported

4.3.3 Panel Data Related Diagnostic Tests

4.3.3.1 Heteroscedasticity

Heteroscedasticity refers to the issue that rises when the variance of error is not identically and independently spread across the tested observations. It occurs when there is an absence of difference for error terms of a regression model. The variance may be constant among cross-sectional observations in panel data; however, the difference may vary within observations through group of years which brings the problem of group-wise heteroscedasticity (Baum, 2001). Heteroscedasticity is examined in current study using group-wise heteroscedasticity test. The null hypothesis states that error terms variance is homogenous. A p-value smaller than 0.05 indicates the results reject the null hypothesis and the issue of heteroscedasticity exists, otherwise no heteroscedasticity can be found (Green, 2003).

The results of the test in Table 4.10 show the existence of heteroscedasticity in the model which should be corrected. The p-value is less than 0.05, so the null hypothesis is not supported. If the problems of cross-dependence and autocorrelation do not exist, then heteroscedasticity can be amended by employing the White's standard error.

Table 4.10
Results of Modified Wald test for group-wise heteroskedasticity

	IAB
Chi^2	170000000
P-Value	0.000
H0(null)	Not supported

4.3.3.2 Autocorrelation

High similarities among error components across time raise the issue of autocorrelation. One of the assumptions of regression model is that error terms of observations is not influenced nor correlated by other observations. It is natural for panel data analysis to have the issue of autocorrelation since it focuses on many years of the same observation (Wooldridge, 2010). The Wooldridge test is commonly used to carry out autocorrelation test in random and fixed-effect models that use panel data.

The null hypothesis states that error terms are not correlated. A p-value greater than 0.05 indicates the results support the null hypothesis and the issue of autocorrelation does not exist, otherwise autocorrelation can be found (Green, 2003). The outcome of Table 4.11 confirms the existence of autocorrelation. The null hypothesis is not supported, and the p-value is less than 0.05. Autocorrelation should be amended using various methods such as Newey-West standard or Rogers errors. However, these two tests cannot be carried out if cross-sectional dependence problem exists (Petersen, 2009).

Table 4.11
Results of Wooldridge test for autocorrelation

	IAB
Chi²	7.960
P-Value	0.0058
H0(null)	Not supported

4.3.3.3 Cross-Sectional Dependence

Cross-sectional dependence is the issue of correlation among error terms across companies. Two main categories of cross-sectional dependence: the first one occurs when the company residuals correlates across years, and the second one exists when the residuals of a specific year correlate across companies (Petersen, 2009). Petersen (2009) added that economic and finance data usually have cross-sectional dependence because companies have similarities when compared to each other and a cross time. Failing to recognize the issue could yield over or underestimation of the coefficients.

Pesaran's test is the suitable test to examine the cross-sectional dependence problem of panel data (Hoyos & Sarafidis, 2006). The outcome of Pesaran's test confirms the existing of the problem but at the level of 0.1. The problem exists but at a weak surface. The p-value is .079 which indicates cross-sectional dependence occurs and it is hard to ignore it even though it is higher than .05. The diagnostic tests asserted the presence of cross-sectional dependence, autocorrelation, and heteroscedasticity in the model. To correct this issue, the study adopts Driscoll and Kraay's standard errors based on Hoechle (2007) to solve the three problems. The adjusted Driscoll and Kraay's standard errors can be used for balanced and unbalanced panel data and Pooled OLS regression and fixed effect model.

4.4 Regression Analysis

Driscoll and Kraay's standard errors is the type of regression used in the current study. Regression analysis assists in predicting and explaining the relationship and the value of the dependent variables based on the values of independent variables (Kleinbaum, Kupper, Nizam, & Rosenberg, 2013). First, the current study will display the results based on Pooled OLS regression to figure out the adjusted R^2 value. The results of pooled OLS regression are displayed on Table 4.12 below. Then, the fixed effect model will be presented to explain the main results of the study.

Obviously, the adjusted R^2 is nearly 78%. The p value is significant since it shows the value of 0.000. The outcome of Table 4.11 displays that the independent variables and control variables are able to clarify 78% of the changes that occur to internal audit budget.

Table 4.12
Results of pooled OLS regression analysis with Driscoll-Kraay standard errors

	DV: IAB- Drisc/Kraay		
Variable	**Coefficient**	**t-statistic**	**P-Val**
ACACCEXP	1.140	14.110	0.000***
ACAUDEXP	-0.090	-1.590	0.114
ACBG4EXP	0.464	10.070	0.000***
ACAQ	-0.577	-13.550	0.000***
ACPQ	-0.735	-5.730	0.000***
FSIZE	0.540	24.790	0.000***
LVG	-0.012	-4.980	0.000***
INVINT	-0.002	-2.920	0.004***
PROF	0.001	0.130	0.897
IASOUA	-0.844	-43.220	0.000***
ACSZE	-0.044	-1.900	0.060*
EAF	0.371	15.810	0.000***
SZEA	0.116	14.120	0.000***
BODSZE	0.035	20.630	0.000***
BODEXC	-2.040	-18.890	0.000***
Number of obs	300		
Prob > F	0.000		
R-squared	0.7778		

Note: IAB: the natural log of internal audit budget, FSIZE: the natural log of company's total assets, ROA: return on assets after winsorizing, EAF: the natural logarithm of external audit fees. Other variables are previously defined. P value *** p<0.01, ** p<0.05, * p<0.1.

Table 4.13 provides the suitable regression analysis for the study's model after carrying out model specification tests and diagnostic tests. The p vale is significant (Prob > F = 0.00) in the model indicating the overall regression analysis model suits the regression equation.

Table 4.13
Results of fixed-effects regression analysis with Driscoll-Kraay standard errors

	DV: IAB - Drisc/Kraay			
Variable	**Expected sign**	**Coefficient**	**t-statistic**	**P-Val**
ACACCEXP	?	0.584	3.710	0.000***
ACAUDEXP	?	-0.085	-1.170	0.243
ACBG4EXP	?	-0.374	-25.770	0.000***
ACAQ	?	-0.258	-1.680	0.095*
ACPQ	?	0.441	9.470	0.000***
FSIZE	+	0.375	6.350	0.000***
LVG	+	0.008	4.900	0.000***
INVINT	+	0.014	6.180	0.000***
ROA	+	0.018	4.830	0.000***
IASOUA	-	0.404	-17.730	0.000***
ACSZE	+	-0.028	-1.910	0.058*
EAF	-	-0.010	-0.320	0.750
SZEA	-	0.015	0.270	0.785
BODSZE	+	0.072	5.620	0.000***
BODEXC	-	-0.483	-3.240	0.002***
	Method		Fixed-effects regression	
	Number of obs		300	
	F (15, 99)		9.580	
	Prob > F		0.000	
	Within R-squared		0.23	

Note: IAB: the natural log of internal audit budget, FSIZE: the natural log of company's total assets, ROA: return on assets after winsorizing, EAF: the natural logarithm of external audit fees. Other variables are previously defined. P value *** p<0.01, ** p<0.05, * p<0.1.

The outcome of the below table shows a positive and significant at the level of P<0.01 relationship between ACACCEXP and internal audit budget. This is consistent with hypothesis Ha1 that states there is a significant relationship between AC experience in accounting and internal audit budget. This outcome suggests that companies with more experienced audit committee members in accounting invest more in internal audit function. This finding is coherent with the argument that experienced audit committee members in accounting, to have their reputation protected, are more careful in safeguarding the process of financial reporting, so they require more internal audit works which lead to investing more in internal audit function.

Barua et al., (2010) found a positive but not significant relationship between ACACCEXP and internal audit budget. There are some reasons that could explain the different results. First, Barua et al., (2010) carried out their study prior to the financial crisis of 2008, the accountants' behavior has changed more conservative throughout the years. Accountants – since they do not work at audit firms- usually require more audit works to make sure they are in the safe side and their reputation is not harmed. In addition, Barua et al., (2010) used a dummy variable to measure experienced accounting members, while the current study employs a percentage method.

In addition, ACBG4EXP is negatively and significantly at the level of P<0.01 related to internal audit budget. Hypothesis Ha3 is supported by the results". This outcome suggests that companies that acquire audit committee members who have worked at BIG Four audit firms invest less in internal audit function. This finding is consistent with the argument that the existence of BIG Four experts in AC develops the internal control system effectiveness and financial report quality which lead to reducing the need for additional works done by internal audit department.

Moreover, ACAQ is negatively and significantly at the level of $p<0.1$ related to internal audit budget. Hypothesis Ha4 was supported by the findings of the regression analysis. The result proposes that members academic qualification assists to reduce internal audit budget. This is in line with hypothesis Ha4 that proposes a significant relationship between both variables.

Furthermore, the findings show a positive and significant at the level of $P<0.01$ relationship between ACPQ and investing in internal audit function. This is consistent with hypothesis Ha5 that states "there is a significant relationship between AC members professional qualifications and internal audit budget". The results suggest that those members who acquire professional qualifications tend to prefer protecting their reputation, so they require addition works, hence more internal audit budget. Al-Dhamari et al. (2018) found a negative and non-significant relationship between internal audit budget and audit committee expertise. Al-Dhamari et al. (2018) measured audit committee expertise as those who have qualifications in accounting or auditing. The main reason for inconsistence results between the two studies is probably due to the method of measurement. The current study sperate qualifications into academic and professional qualifications, while Al-Dhamari et al. (2018) combined both types together resulting in non-significant relationship.

However, the findings show a negative but not significant relationship between ACAUDEXP and internal audit budget. The finding is not consistent with hypothesis Ha2 that anticipated a significant relationship between ACAUDEXP and internal audit budget. The results suggest that experienced audit committee members in auditing are less likely to have monitoring nor controlling role over internal audit resources which contradict with agency theory argument. Appointing expertise in audit committee would most likely lead to reduce agency problem and agency costs. Managers would appoint voluntarily experienced audit committee members to send a message to shareholders that financial statements are reliable and trustworthy.

The previous result is not consistent with Barua et al., (2010) results who found a negative and significant relationship with internal audit budget. A possible explanation is due to the measurement method since the current study employs two types of auditing experience; namely auditing experience at BIG Four audit firms and auditing experience at other audit firms, whereas Barua et al., (2010) employed one single measurement for auditing experience. So, different types of auditing experience may lead to various outcomes.

The results found a positive and significant impact of experienced audit committee members in accounting and professionally qualified members on internal audit budget. The findings suggest appointing those members lead to an increase on IAB, hence an increase in agency costs. In addition, the results suggest that audit committee members who have worked at BIG Four audit firms and those who possess academic qualifications have a negative and significant relationship on internal audit budget. It can be implied that appointing those members to audit committee would not only assist to monitor internal audit resources, but to reduce those resources as well. It can also be implied that appointing those members would lead to reduce agency costs since internal audit budget will be minimized.

In the context of audit quality, the results obtained suggest that the existence of audit committee members expertise is essential to ensure effective financial reporting process. Therefore, appointing expertise to the audit committee gives rise to better audit quality due to their experience, knowledge and qualifications whereby companies are capable to exploit useful resources. Those members who have auditing experience, especially at BIG Four audit firms tend to use their knowledge and expertise to increase audit quality. It is not surprising that the findings of the current study show a negative relationship with internal audit budget because they use their own experience to reduce works performed by internal auditors. Similarly, having those members in audit committees would assist external auditors since they understand the way auditors operate, hence audit quality would increase.

Apparently, most of the control variables have a significant effect on internal audit budget and most of them have the expected sign. For instance, firm's size has a positive and significant relationship with internal audit budget. The results propose that the larger the company, the more it invests in internal audit function. In addition, leverage has a significant and positive relationship with IAB indicating a higher proportion of debt leads to investing more in internal audit. Furthermore, inventory intensity has a positive and significant relationship with IAB. The results suggest the more complex the company, the more internal audit budget it pays. Similarly, Barua et al. (2010) found a positive and significant relationship between firm size, leverage and inventory intensity as control variables and internal audit budget as dependent variable. Moreover, the findings show a positive and significant relationship between ROA and IAB indicating the more profits a company makes, the more it has the ability to invest in internal audit function. The findings also reveal a negative and significant relationship between internal audit source arrangement and IAB. This is consistent with Al-Dhamari et al. (2018) findings. The results suggest that outsourced internal audit provides a more independent internal audit function with less costs.

Audit committee size has a negative and weak significance relationship with internal audit budget. This is not in line with the expected sign. A possible reason is larger audit committee provides expertise to the committee which requires less works done by the internal audit department, hence reducing internal audit budget. In addition, EAF has a negative relationship as expected with IAB but insignificant. Size of external auditor has a positive and insignificant relationship with IAB. The results propose if the external auditor is one of the BIG Four, internal audit budget will be larger. This result indicates that BIG Four audit firms rely on the internal audit department results if they found enough resources were contributed to internal audit function.

BODSZE has a positive and significant relationship with IAB. The larger the BOD, the more it invests in internal audit function. Finally, BODEXC has a negative and significant relationship with IAB. The results suggest the more executive members in the BOD, the less resources invested in internal audit function.

4.5 Sensitivity Tests

Sensitivity tests are robustness test of the main regression analysis of the study to ensure the validity and trustworthiness of the results. Two tests were carried out for this purpose. The first sensitivity test was conducted after re-measuring ACAUDEXP. Audit committee members auditing experience was measured as the percentage of experienced audit committee members in auditing to the total number of AC. The main analysis outcome showed a negative and non-significant relationship between ACAUDEXP and IAB. As an alternative measurement to ACAUDEXP, the regression model was re-run with independent variable ACAUDEXP, measured as the dummy variable taking the value of 1 if audit committee has at least one member with auditing experience and 0 otherwise. Table 4.14 displays the outcome of the re-evaluated model.

The findings reported in the below table generally supports the results shown in table 4.13. For instance, ACACCEXP and ACPQ have a positive and significant impact on internal audit budget, while ACBG4EXP and ACAQ have negative and significant effect on investment in internal audit. The results also show a negative and non-significant relationship between ACAUDEXP and internal audit budget. The only difference between both analysis regarding the relationship between independent and dependent variable is the level of significant for the independent variable (ACAQ). In the main analysis, it was significant at the level of 0.1, while it is significant here at the level of .05. So, the level of significance increased. The overall results suggest that the findings of the study remain unchanged despite employing the new measurement of ACAUDEXP.

Table 4.14
Results of regression analysis with Driscoll-Kraay standard errors employing alternative measurement of audit committee auditing experience

	DV: IAB - Drisc/Kraay		
Variable	**Coefficient**	**t-statistic**	**P-Val**
ACACCEXP	0.565	4.000	0.000***
ACAUDEXP	-0.086	-1.010	0.315
ACBG4EXP	-0.368	-17.990	0.000***
ACAQ	-0.222	-2.360	0.020**
ACPQ	0.454	6.070	0.000***
FSIZE	0.380	6.640	0.000***
LVG	0.008	5.180	0.000***
INVINT	0.014	6.020	0.000***
PROF	0.019	5.260	0.000***
EAF	-0.019	-0.550	0.587
IASOUA	-0.395	-16.390	0.000***
ACSZE	-0.022	-1.130	0.261
SZEA	0.015	0.280	0.781
BODSZE	0.070	6.830	0.000***
BODEXC	-0.477	-3.330	0.001***
Method	Fixed-effects regression		
Number of obs	300		
F (15, 99)	12.64		
Prob > F	0.000		
Within R-squared	0.23		

Note: IAB: the natural log of internal audit budget, ACAUDEXP, 1 if consists of at least of experience member in auditing, 0 otherwise, FSIZE: the natural log of company's total assets, ROA: return on assets after winsorizing, EAF: the natural logarithm of external audit fees. Other variables are previously defined. P value *** p<0.01, ** p<0.05, * p<0.1.

Table 4.15
Results of regression analysis with Driscoll-Kraay standard errors after removing EAF

	DV: IAB - Drisc/Kraay		
Variable	**Coefficient**	**t-statistic**	**P-Val**
ACACCEXP	0.585	3.610	0.000***
ACAUDEXP	-0.082	-1.080	0.285
ACBG4EXP	-0.375	-35.400	0.000***
ACAQ	-0.257	-1.710	0.091*
ACPQ	0.439	9.880	0.000***
FSIZE	0.371	5.230	0.000***
LVG	0.008	4.920	0.000***
INVINT	0.014	6.200	0.000***
PROF	0.018	4.820	0.000***
IASOUA	-0.406	-21.800	0.000***
ACSZE	-0.027	-1.700	0.093*
SZEA	0.015	0.300	0.768
BODSZE	0.072	5.660	0.000***
BODEXC	-0.479	-3.170	0.002***
Method	Fixed-effects regression		
Number of obs	300		
F (15, 99)	9.69		
Prob > F	0.000		
Within R-squared	0.229		

Note: IAB: the natural log of internal audit budget, FSIZE: the natural log of company's total assets, ROA: return on assets after winsorizing, EAF: deleted. Other variables are previously defined. P value *** p<0.01, ** p<0.05, * p<0.1.

The second sensitivity test was carried out after removing external audit fees (EAF) as a control variable. The reason for taking out this control variable is due to the high value of correlation between EAF and IAB as found by the correlation matrix on Table 4.6 and Table4.7. It was found 0.711 and 0.714 in both tables respectively. Table 4.15 shows the results of the sensitivity test after removing EAF which are relatively similar to the one presented in the main analysis in Table 4.13. It can be concluded that multicollinearity does not affect the overall results of the study, and external governance mechanisms such as external audit function are not much affected by internal governance mechanisms such as internal audit.

4.6 Chapter Summary

This chapter provided a descriptive statistic of the variables tested in the current study. Diagnostic tests and model specification tests were performed to ensure selecting the accurate regression model. Regression analysis with Driscoll-Kraay standard errors under fixed effects model was found the suitable test to examine the proposed relationships. The regression findings show that ACACCEXP and ACPQ have a positive and significant impact on internal audit budget, while ACBG4EXP and ACAQ have negative and significant effect on investment in internal audit. The results also show a negative and non-significant relationship between ACAUDEXP and internal audit budget. Finally, two additional sensitivity tests were carried out to ensure the robustness of the findings resulting in the same outcome as presented by the main analysis.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 Introduction

The main purpose of this chapter is to provide an overall conclusion about the whole study. Section 5.2 summarizes the study's findings and whether hypotheses were supported or rejected. Section 5.3 provides the regulatory, theoretical and practical implications of the research results. In section 5.4, the limitation of the study was addressed. Section 5.5 discusses possible paths for future research. Section 5.6 concludes.

5.2 Study Overview

Corporate accounting scandals such as Enron and Tyco reduced the confidence of investors in capital markets and involved audit firms. As a result, calls have been made towards the role of corporate governance as a way to regain investors' trust. Two main mechanism that have been used lately to mitigate this issue are internal audit function and audit committees. Internal audit is crucial to companies since it produces services to management such as preventing fraud, fraud analysis, assurances regarding internal control, risk analysis and ensuring compliance with firms' policies and government regulations (Hermanson & Rittenberg, 2003). Audit committee's main objective is to ensure the trustworthiness and credibility of financial statements published by the firms by monitoring the process of financial reporting (Bradbury et al., 2006). So, it is important to figure out the effectiveness of audit committee members expertise in overseeing the works performed by internal auditors and to what extent companies are willing to invest in internal audit function.

The primary goal of this study is to examine the relationship between audit committee members expertise and internal audit budget in Malaysia. Top 100 companies listed in Bursa Malaysia after excluding financial firms, REITS and newly listed companies were selected to examine the proposed relationship. To fulfil the objectives of the study, panel data analysis was employed. Regression analysis was estimated utilizing Driscoll and Kraay's standard errors in fixed effects model to control for autocorrelation, heteroscedasticity, and cross-sectional dependence. The study sets out five hypotheses that were examined and analyzed. The study hypothesized that there is a significant relationship between (i) AC experience in accounting, (ii) AC experience in audit, (iii) AC members who have worked at BIG Four, (iv) AC members academic qualifications, (v) AC members professional qualifications and internal audit budget.

The regression analysis shows that independent and control variables expound 78% of the changes that occur to internal audit budget. The findings show that the existence of experienced audit committee members in accounting leads to higher internal audit budget. This finding is consistent with hypothesis Ha1 and complementary perspective. The results support the argument that experienced audit committee members in accounting, to have their reputation protected, are more careful in safeguarding the process of financial reporting, so they require more internal audit works which lead to investing more in internal audit function.

Likewise, the results indicate a positive and significant effect of audit committee members professional qualification investment in internal audit budget. The findings show that those members who are professionally qualified tend to be more cautious when dealing with internal controls and other duties assigned to internal auditors. Their attentive behavior towards internal audit function is due to their past daily life as practitioners of audit. They fully understand the worthiness of internal audit function, so they require a larger scope of work by internal auditors to ensure the company's performance as well as their reputation are not harmed. This finding is consistent with Ha5 and complementary perspective.

Moreover, the study's findings show a negative and significant relationship between those who have worked with BIG Four audit firms and internal audit budget. This finding is consistent with hypothesis Ha3 and substitution perspective. It suggests that the existence of BIG Four experts in AC develops the internal control system effectiveness and financial report quality which lead to reducing the need for additional works done by internal audit department. Similarly, the regression analysis displays a negative and significant impact of audit committee members academic qualification on investment in internal audit. The findings suggest that those members educated academically tend to believe their own knowledge of internal audit functions may replace some duties conducted by internal auditors, so they provide internal auditors with lesser scope of works. This finding supports Ha4 and substitution hypothesis.

The results, however, reveal a non-significant impact of experience members in auditing with investment in internal audit which means hypothesis Ha2 was not supported. The findings suggest that those members who have experience in auditing are less likely to have controlling nor monitoring function over internal audit resources which contradict with agency theory argument. Appointing expertise in audit committee would most likely lead to reduce agency problem and agency costs. Managers would appoint voluntarily experienced audit committee members to send a message to shareholders that financial statements are reliable and trustworthy.

5.3 Implications of the Study

Implications of the study can be divided into three, namely theoretical, academic and regulatory and practical implications.

5.3.1 Theoretical Implications

The outcome yielded from the present study have important theoretical contribution that may add to the perspective of agency theory. Agency theoretical perspective and substitution and complementary hypotheses can explain the significant relationship between audit committee members expertise (accounting experience, BIG Four experience, academic qualifications and professional qualifications) and internal audit budget. Agency theory shows how agents try to maximize their wealth even if it means making losses for the company. As a result, agency costs arise when principals appoint audit committee members to oversee and monitor the works performed by managers. Appointing audit committee members expertise and internal audit function are two parts of agency costs. The current study adds to agency theory by revealing the significant relationship between these two parts and validates the agency theory perspective in Malaysian context.

5.3.2 Academic Implications

The current study provides serious attention to four significant factors that impact internal audit budget in Malaysian listed firms. The current study will be useful to researchers and academics whose focus areas of research are internal audit and audit committee expertise. Literature on internal audit is still limited, so this study can provide more knowledge to those who wish to investigate in internal audit area.

5.3.3 Regulatory and Practical Implications

This study reinforces the policy makers and organizers perceptions on the effects of audit committee members expertise and internal audit budget in the environment of Malaysia. In addition, this study helps to comprehend internal audit profession especially in Malaysia. Further, the outcome of this research implies that Bursa Malaysia and MICG must pay more attention to elements such as accounting and auditing experience, academic and professional qualifications when setting up rules to govern Malaysian listed companies. Moreover, public companies could use the results to ensure appointing the appropriate members in their audit committees to have better monitoring on internal audit function. Furthermore, internal auditors could use this paper to provide suggestions to the management on how to reduce internal audit budget. Internal auditors can enhance their performance quality when they reinforce a good and professional relationship with audit committee members. In addition, the findings of this study could be useful for the public and other stakeholders to be able to understand the reason behind a high or low internal audit budget among companies. Finally, the findings enable investors to evaluate the role of internal audit function in developing the process of financial reporting with the help of audit committees.

5.4 Limitations of the Study

The current study has some limitations that must be reported to ensure that the outcome is fairly interpreted. First, it covers only 100 companies in Malaysia, so the findings might not be generalized to small firms since there are over 900 companies listed in Bursa Malaysia. Second, this research focuses on the role of audit committee expertise on the available resources for internal audit. Characteristics of AC such as independence, diligence and tenure could be studied in relation to internal audit budget. Moreover, other factors that may affect internal audit function includes internal audit employees' availability and qualifications, head of internal audit function, internal audit function size and meetings of internal audit department. Companies are still not required to disclose these information in their annual reports, so future studies can use primary data to extract such information. Finally, this research studies Malaysian companies only, so whether the findings of this study could be generalized to companies in other countries remain unsolved.

5.5 Future Research

The limitations mentioned above can be the base for proposing avenues for future research. First, larger size of sample selection in future study could be taken in mind to enable the researcher to generalize his findings. Further, future study could analyze a larger context, such as including other countries that fall within the same cultural and environmental factors with Malaysia. Moreover, future study could also make a comparison between developed and developing markets regarding the proposed relationship. In addition, future research could examine the relationship in countries where internal audit function is not required by law. Furthermore, the current study employs agency theory, other theories such as stewardship theory and resource dependence theory could be tested within the same model. Finally, the current study uses five factors of expertise to study the suggested relationship, other factors such as industry experience and legal experience could be tested as well.

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