



**INTERNAL AUDIT INTELLIGENCE AND FIRM SUCCESS:  
EVIDENCE FROM THAI-LISTED FIRMS**

**THANYAGAMON PARARIT**

**A dissertation submitted in partial fulfillment of the requirements for  
the degree of Doctor of Philosophy in Accounting  
at Maharakham University**

**September 2015**

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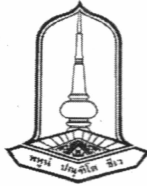
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The examining committee has unanimously approved this dissertation, submitted by Miss Thanyagamon Pararit, as a partial fulfillment of the requirements for the Doctor of Philosophy degree in Accounting at Maharakham University.

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Thanyagamon Pararit



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### **ABSTRACT**

The rapid change and volatility of the current economic environment has more influenced the predictability of firms which have survived and maintained sustainable growth in highly competitive situation. Internal audit intelligence is recognized and is important to the success of the firm. Thus, this research attempts to integrate the key components of internal audit intelligence in a new model. The main purpose of this research is to investigate the effects of internal audit intelligence on firm success from Thai-listed firms. Furthermore, the effects of internal audit intelligence on the following variables have also been investigated: best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, internal audit quality, decision making value, organizational goal achievement, and firm success. In addition, this research tests the effects of governance vision, internal audit learning, internal audit competency, and stakeholder expectation as the antecedents of internal audit intelligence. Moreover, this research intends to explore the moderating effect of internal audit experience.

The knowledge-based view of the firm, the institutional theory, and the contingency theory are applied to explain the relationships of the variables in this research. Thai-listed firms in Thailand were selected as the sample. A questionnaire is used as the instrument for data collection and the internal audit manager/internal audit director is the key informant. Data were collected from a sample of 126 Thai-listed firms. The Ordinary Least Squares (OLS) regression is the method used for testing the hypotheses.

The results demonstrate that three in five dimensions of internal audit intelligence have a positive effect on four outcomes of internal audit intelligence. Internal audit knowledge well-roundedness has a positive effect on best internal audit practice,



internal audit planning effectiveness, and internal audit review efficiency. In addition, internal audit ethics awareness has a positive effect on internal audit review efficiency. Moreover, internal audit excellence mindset has a positive effect on best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, and firm success.

Furthermore, best internal audit practice and internal audit review efficiency have a positive effect on internal audit quality. Additionally, internal audit quality has a positive effect on decision making value, organizational goal achievement, and firm success, and ultimately organizational goal achievement increase firm success.

The influence of four antecedents on each dimension of internal audit intelligence reveals that governance vision has a positive effect on best internal audit concept, internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset. Internal audit learning has a positive effect on best internal audit concept. Likewise, stakeholder expectation also has a positive effect on internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset. For the influence of the moderator, internal audit experience cannot be found as the moderator in the relationships among governance vision, internal audit learning, internal audit competency, stakeholder expectation, and each dimension of internal audit intelligence.

This research gives the directions and suggestions for managers to identify and justify key components of internal audit intelligence that may be more critical in the operation of a business that affects the quality of the audit function. Therefore, the manager should promote and encourage internal audit intelligence in ways that generate more benefits for both the firm and the stakeholders. Moreover, the suggestions for future research and the conclusions are highlighted as well.



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## CHAPTER I

### INTRODUCTION

#### Overview

Currently, the rapid change and volatility of the economic environment has influenced the predictability of firms in survival and maintenance of sustainable growth in a highly competitive situation. In order to survive and grow, firms need continuous development for their operational processes that respond to economic change, to ensure survival, and to achieve firm success (Danneel, 2002). Moreover, several companies such as the Petroleum Authority of Thailand (PTT), The Siam Cement Public Company Limited (SCG), the Bangkok Petroleum Public Company Limited, and the Kasikorn Bank Public Company Limited have adopted and held to corporate governance and accountability to society and environment as an operation guideline to business growth that led to simultaneously survivability and sustainability (Hopwood, Unermab and Fries, 2010). That is consistent and in accordance with rules prescribed by the Stock Exchange of Thailand (SET). Many organizations such as the Toyota Motor Thai Company Limited, Thai Airways International Public Company Limited, and Murata Electronics (Thailand) Company Limited try to seek the appropriate management processes or methods to improve the operational practices and develop into proper firms, which lead to high performance in creating competitive advantages in the long term (Institute of Internal Auditors, 2003). Therefore, best practices approach was used to increase firm performance, value added (James, 2003), and sustainable competitive advantages which are important goals of current businesses.

Rapid environment change affect improvement of the internal audit function emphasizes future-orient and continuous improvement as a dynamic, evolved and expanded scope of work to cover all aspects of control and, hence, apply their expertise to outside finance focusing on efficiency and effectiveness in the operational activity (Cecere, 2008). The role in protecting assets is more important than the earlier-mentioned situations. Moreover, some critical point need to best practice to check and present weakness issues, that is, the quality of audit work (O'Dell, 2011). Additionally, the role



of the internal audit function was expanding service to support other department within organization as well (Hass, Abdolmohammadi and Burnaby, 2006). In this situation, executives and all parties expected that the internal audit function could assess and consult concerning risk management, control system, and corporate governance effectiveness (Hermenson, 2006). Additionally, they can have the stakeholders ensure that finance information is more use and reliable which used in the operations and for decision-making. Therefore, it is challenge for internal audit function to find the best guidelines or procedures for audit task to respond to executive's needs, in which the internal audit function can help organizations and stakeholders to ensure that the key risk was identified and controlled appropriately (Jeffrey, 2008). Moreover, it can be said that the current role of the internal audit function is both an independent consultant and catalyst for change in the operations processes in the organization in order to be able to survive in a competitive environment and current change (Institute of Internal Auditors, 2002).

The accounting scandals at Enron (USA), WorldCom (USA), Sumitomo (Japan), and other companies have led to a serious focus on corporate governance and internal control effectiveness (Carecello et al., 2005) due to a lack of transparency of business operations. These serious events have indicated that important role played by the boards of directors in strengthening effective corporate governance, including disclosure, which is the ultimate responsibility for internal control systems in their institutions (Al-jabali et al., 2011) As a result, the regulator's response has focused on the increasing demand for disclosure and corporate governance, and internal control and risk management such as in the United States and other countries which emphasize the importance of the investor's confidence in the financial reporting quality and the need for a quality financial report to meet expectations of current and potential investors (Al-Shetwi et al., 2001; Soh and Martinov-Bennie, 2011). Importantly, Gramling et al. (2004) stated that one of the four cornerstones of corporate governance is an internal audit function, which improves the transparency and quality of financial reporting, auditing, detecting, and preventing fraud and assessing internal control effectiveness.

Currently, the management of organizations both in the public and private sector has been expanded to affect the increasingly complicated management, including the rapid changes in the economy, society, politics, and technology. As a result, a board of directors cannot control the operational details of various departments thoroughly.



The internal audit is a tool which is used as a supporting role in the management and for audit and control measures to be effective (Gramling et al., 2004). The role of the internal audit is to help the organization achieve its objectives by way of a systematic and strict support risk management evaluation by planning, verifying the extent of compliance with policies, improving the effectiveness and efficiency of the firm's operation, control and management process, and financial report presentation (Al-Shetwi et al., 2011; Institute of Internal Auditors, 2004; Rama and Newman, 2002; Vasile et al., 2011). Similarly, Rahahleh (2010) stated that internal audit is the independent activities on an operation and consulting service that is designed to add value to the organization as well as improve performance. Therefore, the internal audit is the independent activities of an operation to help support risk management, to plan, and to check the compliance with policies and financial report presentation to achieve objectivity and added value to the organization.

From the above, the responsibility of the internal audit requires examination and evaluation of the adequacy and effectiveness of the organization's governance, risk management, and internal process (Institute of Internal Auditors, 2009). In addition, the main objective of the internal audit function is to play a role as a monitoring mechanism and assist organizations in achieving objectives effectively by providing unbiased and objective assessments and improvement of risk and internal control (Ahmad et al., 2009; Hermanson et al., 2008). Internal audit function is also used to assess internal control effectiveness (Wancharoendate and Ngamtampong, 2012). Thus, the operation of internal audit is causes the internal audit function must adhere to the responsibility practice leading to added value of the organization (Popescu and Vasile, 2011; Spira and Page, 2003).

Knowledge, skills, and ability are major important issues in practice works. According to Palmer et al. (2004), changes in the accounting profession are necessary to enhance important skills, as well as professional knowledge. The prior research of Ahmad et al. (2009) found that the auditors lack appropriate knowledge of effective auditing approaches. Similarly, Abu-Eker et al. (2011) stated that the auditors have a lack of knowledge of accounting and processes. As well, Van (2004; 2005) stated that auditors do not have sufficient knowledge to make useful support concerning knowledge of the important background of the internal audit (Swinkels, 2009).



In addition, Dittenhofer (2001) found that unskilled internal audit work affects non achievement of objectives, because skill or ability in the operation of a business affects the quality of the audit function (Matarneh, 2011). Meanwhile, the International Standards for the Professional Practice of Internal Auditing assigns attribute standards that address the attributes of the organizations and individuals performing internal auditing in part of proficiency, which is essential in meeting the responsibilities of the internal auditors and the internal audit activity (International Standards for the Professional Practice of Internal Auditing, 2009). Therefore, the commitment of compliance with the standards, including knowledge, skills, and abilities, are used as sufficient practices affect achieved objectives effectively.

The International Standards for the Professional Practice of Internal Auditing (2008) define proficiency as knowledge, skills, and competencies needed to effectively carry out their professional responsibilities. Fadzil et al. (2005) define proficiency as sufficient knowledge. Therefore, knowledge, skills, and technical ability are effectively applied in audit practice and in application of knowledge (Dove, 1999; Mihret et al., 2010; Reding et al., 2009). According to the importance of internal audit proficiency, this research attempts to provide the definition that is internal audit proficiency which refers to the ability to use knowledge, skills, and abilities to rely on the experience in the internal audit processes to achieve efficiency. Based on the literature review, skilled auditors can help to improve the internal control system to complete the audit to find suitable solutions on the basis of past experience, and to deal with complex and conflicting situations (Flesher and Zanzig, 2000; Mat Zain et al., 2006). Moreover, the individual characteristics are required the aptitude, skills, and knowledge required to perform the work (Lucia and Lepsinger, 1999). Hence, internal audit intelligence is the important knowledge and skills as a result of internal audit effectiveness (Savcuk, 2007).

This research develops a construct of internal audit intelligence that consists of five dimensions, including best internal audit concept, internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset. The erotically, the knowledge-based theory of the firm, the institutional theory, and the contingency theory are applied to explain this construct. The knowledge-based theory of the firm, considers knowledge as the most important asset of the firm's strategy that is often difficult to imitate and complex of





knowledge-based society, and is among the companies that are the key factors of a sustainable competitive advantage leading to superior performance (Teece et al., 1997). The knowledge-based theory of the firm is used to support the context of accounting and auditing (Hui and Fatl, 2007). In this research, internal audit intelligence is defined as the crucial knowledge and skills of the internal audit department to carry out internal audit works. According to Bharadwaj et al. (1993), the difference in ability influences the organization's differences to achieve a competitive advantage. Hence, the knowledge-based theory of the firm is used to explain the relationships among internal audit intelligence, internal audit quality, and firm success.

Institutional theory is a concept related to the ability of an organization to analyze and understand the profound organizational behavior. This is a widely-accepted theory that focuses the rationale of isomorphism and legitimacy. This theory focuses on explaining the organizational behavior to survive and be accepted by society (Sampattikorn et al., 2012; Zucker, 1987). The institutional theory is adapted to match with the external environment, such as standards compliance, and the rules and regulations of the profession for the survival of the organization. Internal audit intelligence is knowledge, skills, and other competencies to effectively carry out their code of ethics and the standard compliance of the internal audit for social expectations (Christopher et al., 2009; Institute of Internal Auditors, 2009). Therefore, the institutional theory is used to explain the antecedents of internal audit intelligence.

The contingency theory is relates the organization's design and systems to fit the event that has changed over time. Contingency theory explains that there is no best way to organize a firm, to lead a firm, or to make decisions so that an organization which is effective in some situations may not be successful in others. Importantly, the optimal action is contingent or dependent on the internal and external situation (Fiedler, 1964). Organizational structure and system are functions of the environment. As a result, the environment is both uncertain and changeable, which affects the organizational system (Simon, 2007). Internal audit is one of the organization's operations. The appropriate audit depends on the ability of the organization to adapt to the system when there is environmental uncertainty which depends on the context of each organization. Moreover, environmental factors affect the nature of internal organization and accounting practices (Haldma and Laats, 2002). Therefore, the



contingency theory has been used to explain two variables: 1) internal audit experience which is a moderator in the relationships among governance vision, internal audit learning, internal audit competency, stakeholder expectation, and internal audit intelligence, and 2) the relationship between internal audit intelligence and its outcomes.

Based on the discussion above, the Thai-listed firms in Thailand is realize the importance of good corporate governance that creates transparency and builds confidence among the stakeholders of the organization (Chaithanakij, 2006). Therefore, this research focuses on the Thai-listed firms in Thailand as a target group. The Thai-listed firms have been enlisted in the Stock Exchange of Thailand (SET).

The literature of internal audit intelligence with empirical evidence for investigating the relationship between the antecedents and consequences of internal audit intelligence is very few. Moreover, the concept and key components of internal audit intelligence are neither clear nor are covered to explain the phenomenon of internal audit intelligence. Consequently, the relationships between the antecedents and consequences of internal audit intelligence are necessary for academic research to investigate and to verify. This research investigates: 1) the relationships among internal audit intelligence, internal audit quality, and firm success, 2) the influences of four antecedents on internal audit intelligence, and 3) the moderating effects of internal audit experience on the relationships between four antecedents and internal audit intelligence. Consequently, the results of this research show three contribute: 1) to improve the quality of internal audit intelligence and provide implications for management to increase efficient and effective internal audit practices that lead to firm success, 2) to increase understanding and awareness of internal audit executives and internal audit staff of the organization to carry out internal audit tasks and activities which-result in better internal audit service, and 3) to provides a new dimension of best internal audit practices and proposes the antecedents and consequences at an organizational level.

### **Purposes of the Research**

The key purpose of this research is to examine the relationships between internal audit intelligence and firm success. Also, the specific research purposes are as follows:



1. to examine the relationships among each dimension of internal audit intelligence (best internal audit concept, internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset), and best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, internal audit quality and firm success,

2. to examine the relationships among internal audit intelligence (best internal audit concept, internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset) best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, and internal audit quality,

3. to examine the relationships among internal audit quality, decision making value, organizational goal achievement, and firm success,

4. to examine the relationships among governance vision, internal audit learning, internal audit competency, stakeholder expectation, and each dimension of internal audit intelligence, and

5. to examine the moderating effects of internal audit experience that has influences on the relationships among governance vision, internal audit learning, internal audit competency, stakeholder expectation, and each dimension of internal audit intelligence.

### **Research Questions**

The key research question of this research is how does internal audit intelligence has an impact on firm success. Also, the specific research questions are presented as follows:

1. How does each dimension of internal audit intelligence influence best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, internal audit quality, decision making value, organizational goal achievement, and firm success?

2. How do each dimension of internal audit intelligence (best internal audit concept, internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset) best internal audit



practice, internal audit planning effectiveness, internal audit review efficiency, internal audit quality, decision making value, and organizational goal achievement affect internal audit quality?

3. How do internal audit quality, decision making value and organizational goal achievement affect firm success?

4. How does governance vision, internal audit learning, internal audit competency, stakeholder expectation, and each dimension of internal audit intelligence?

5. How does moderating effects of internal audit experience that has influences on the relationships among governance vision, internal audit learning, internal audit competency, stakeholder expectation, and each dimension of internal audit intelligence?

### **Scope of the Research**

This research aims at examining the effects of internal audit intelligence on firm success of Thai-listed companies. The mediating influences of best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, internal audit quality, decision making value, and organizational goal achievement are also investigated. Additionally, governance vision, internal audit learning, internal audit competency, and stakeholder expectation are assumed to become the antecedents of internal audit intelligence. Moreover, the moderating effect of internal audit experience on the relationships among four antecedents and each dimension of internal audit intelligence are also investigated.

The relationships among variables of this research can be described in three theories. Firstly, knowledge-based theory of the firm explains the relationships of internal audit intelligence that is crucial knowledge to the firm and which creates an advantage over competitors and leads to firm success. Secondly, the institutional theory is used to explain the relationships between antecedents and internal audit intelligence. Finally, the contingency theory is used to explain the moderating effects of internal audit experience that has influences on the relationships among four antecedents and each dimension of internal audit intelligence, and the mediating effects of decision making value and organizational goal achievement that has influences on the relationships



between internal audit quality and firm success. According to the concept of the contingency theory it is concerned with the relationships between exogenous and firm-specific factors, which in turn influence competitive strategy, which in the end, influences performance via the intervening variable of organizational structure (Luther and Longden, 2001).

With respect to the research objectives and research questions, there are many variables in the research. Internal audit intelligence is an independent variable. In this research, internal audit intelligence is defined as the expertise of auditors including specific skill and experience to perform more complex audit tasks and provide more superior quality service than other auditors (Nelson, 2009). In addition, internal audit intelligence comprises five dimensions, namely, best internal audit concept, internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset. It is hypothesized to be positively associated with best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, internal audit quality, decision making value, organizational goal achievement, and firm success.

Meanwhile the internal audit intelligence outcomes are the mediating variable of the relationships between internal audit intelligence and firm success, which are composed of three variables as follows: best internal audit practice, internal audit planning effectiveness, and internal audit review efficiency. Best internal audit practices can be explained by the auditor's perception of audit work to provide audit experience with respect and trust, commitment, ethics, continuous improvement, and understanding of a client (Lan et al., 2008). The objective of audit practice is to create the way or implementation technique auditors use in audit-planning effectiveness in order to achieve the goal of auditing. They are very important and are used in audit marketing, finance, and accounting (Ulaga and Chacour, 2001). This research, based on the auditor's expertise, knowledge, learning competency, and experience in audit tasks is to improve the standard quality itself. The standard quality is related to the auditor's physical attributes in which the auditor's perception is high quality regarding the audit task. The internal audit planning effectiveness should also consider those activities most affected by recent or expected changes. As a result, the planning should be flexible in order to make the change during the year as a result of strategic change management



expectations of achieving firm objectives (Ljubisavljevic and Jovanovic, 2011). In this research, an internal audit review efficiency is defined as the capability to continuously brainstorm, appraise, and reconsider the internal audit works and conclusions to ensure that the internal audit task is complied with professional standards, assurance and auditing guideline, and firm policies and procedures (Carpenter, 2007; Gissel, 2010; Harding and Trotman, 2011; Hurtt, Eining, and Plumlee, 2011; Payne, Ramsay, and Bamber, 2010). There are many ways to help firms increase operational effectiveness such as removing unnecessary processes or increasing capabilities of the underlying processes.

Furthermore, this research also investigates the antecedents of internal audit intelligence including governance vision, internal audit learning, internal audit competency, and stakeholder expectation. Governance vision refers to the organizational work policy on transparency, integrity, and fairness leading to the acceptance and trust of stakeholders (Jennings, 2008). Internal audit learning refers to the development of skills, knowledge, and the understanding of internal auditing by training to improve performance regular to ensure the practice is accurate and timely. Internal audit competency refers to the ability of the existing internal audit operations to improve the corresponding solution on the basis of knowledge, skills, and abilities with regulations and professional standards. And stakeholder expectation refers to the society's expectation of the professional accountant who is concerned with integrity, accountability, and a moral responsibility to act in the public interest. Freeman (1984) defined stakeholders as any group or individual who can affect or is affected by the achievement of an organization's objectives. There are two groups of stakeholders that influence organizations: internal and external stakeholders, such as shareholders, employees, competitors, suppliers, consumers, and government agencies. As a result, this research hypothesizes that there is a positive relationship between internal audit intelligence and its mentioned antecedents.

Additionally, internal audit experience is a moderating variable on the relationships among governance vision, internal audit learning, internal audit competency, stakeholder expectation, and each dimension of internal audit intelligence, which is expected to have a positive impact on the aforementioned relationship. Based on the internal auditing literature, audit experience refers to number of years that internal audit



function existing and level of maturity and sophistication (Anderson et al., 2012; Sarens et al., 2011). Hence, in this research, internal audit experience refers to the internal audit department accumulated professional knowledge and skill that can create added value to the firm (Rentsch, Heffner, and Duffy, 1994; Wasche and Sciortino, 2007).

In this research, the population is the internal audit department of Thai-listed firms and the data is collected from the chief internal auditor or chief internal audit manager of the listed companies in the Stock Exchange of Thailand. In total, 518 Thai-listed firms are designated. A questionnaire mailed survey is utilized for data collection. Statistical techniques which include correlation analysis, variance inflation factors, factor analysis, and regression analysis are employed to test the postulated hypotheses.

In conclusion, the scope of this research consists of three major parts. The first is to examine the relationships between internal audit intelligence and internal audit quality. The second examines the influence of internal audit outcomes on firm success. And the third examines the relationships among four antecedents and each dimension of internal audit intelligence, including the moderating effect of internal audit experience.

### **Organization of the Dissertation**

This dissertation is organized in five chapters as follows; Chapter one provides an overview of the research, purposes of the research, research questions, scope of the research, and organization of the dissertation. Following, Chapter two reviews the relevant literature, explains the theoretical framework to describe the conceptual model, and develops the related hypotheses for testing. Next, Chapter three discusses the research methods, including the sample selection and data collection procedure, the variable measurements of each construct, the instrumental verification, the statistics and equations to test the hypotheses, and the table of definitions and operational variables of the constructs. Chapter four presents the empirical results and discussion, and Chapter five details the conclusion, theoretical and practical contributions, limitations, and future research directions.



## CHAPTER II

### LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

The previous chapter explains the situation and significance of internal audit intelligence which brings us to the motivation of this research leading to the research objectives, research questions, and scope of the research. Hence, this chapter focuses on the construct of a conceptual model and a review of previous studies and the relevant literature.

Internal audit is a value-added activity. That is important for the internal auditor to comply with the Standards for the Professional Practice of Internal Auditing (SPPIA), leading to the organizations' achievement with efficiency and effectiveness (Al-Twaijry, Brierley and Gwilliam, 2003). This research endeavors to recognize key components of internal audit intelligence and investigates the relationships between the antecedents and consequences of internal audit intelligence by the literature review and previous research. In addition, this research attempts to explain the importance of internal audit intelligence, including the causes and consequences of internal audit intelligence. Therefore, this chapter presents a review of previous studies, the relevant literature detailed in the internal audit intelligence model, the theoretical foundations, the definitions of all constructs, the hypotheses development, and other constructs in the conceptual model.

#### **Theoretical Foundations**

The research employs three main theories: the knowledge-based view of the firm, the institutional theory, and the contingency theory to explain the relationships between the antecedents and consequences of internal audit intelligence aforementioned.

#### Knowledge-based view of the firm

The knowledge-based view of the firm is a concept and model of business enterprises which explains their structure and behaviors (Grant, 1996). The definition of the knowledge-based view of the firm considers the knowledge as an important of the firms and is difficult to imitate (Grant 2002). In addition, this theory knowledge at the





group and firm levels for analysis to what had been a construct. Different knowledge and ability are a key factor in the firm's sustainable competitive advantage and leads to superior performance (Hitt, Ireland and Hoskisson, 1999; Teece, Pisano and Shuen, 1997). By doing so, a firms will focus on interpersonal communication and the exchange of knowledge and construction (such as the development of performance), and finally, the impact of such interaction in order to competitive advantage. This knowledge is procedural, which is knowledge and skill of sequence of operation. The process of developing procedural knowledge for a skill-based task has been shown to occur in the following three stages: (a) we are presented with a description of a way to perform a task, (b) we practice it, perhaps haltingly at first but our intelligence improves with continued practice and it benefits from feedback, and (c) we reach the point at which our ability to perform the task is automatic, we no longer have to think about it (Lakshmanan et al., 2010).

The knowledge based view of the firm is used to support the context of accounting, auditing, and internal audit (Brocheler, 2004; Hui and Fatt, 2007). In accounting context, Firms were able to use knowledge to appropriate and accumulate accounting practice, as mediate by variant structures of accountability lead to different performance (Toms. 2006). In addition, the knowledge-based theory of the firm is applied to clarify the fact that internal audit intelligence is the crucial knowledge of the firm which creates advantage over competitor and leads to firm goal achievement because internal audit intelligence is knowledge as the most strategically significant resource of a firm, and lead to superior performance. In internal audit context, firm's knowledge can be advanced by either absorbing existing knowledge external to the firm or by developing new knowledge in order to increase maximization of the firm's value (Nickerson and Zenger, 2009). Similarly, Ali and Owais (2013) in internal audit knowledge is an important resource that helps internal auditor to maximize and add value for the firm. Moreover, in audit context, Wangcharoendate and Ussahawanitchakit (2010) apply theory to describe the skills, knowledge in best audit practices in order to gain a competitive advantage, as well as audit effectiveness. Therefore, the firm has different knowledge and capability will have different performance. As described earlier, knowledge and resources to considered a necessary ingredient for the survival of the company (Kaplan et al., 2001). Knowledge or capability refers to a firm's capacity



to efficiently convert its inputs which lead to valuable outputs (Nickerson and Zenger, 2004). The acquisition and use of most products and the firm's specific knowledge from learning and experience are made available to a greater extent, than in the case of technical knowledge acquired (Rahmeyer, 2006).

This research adopts the knowledge-based view of the firm which explains that the firm's future growth depends on the productive integration of knowledge resources and derivative decision making capabilities (Ding, Akoorie and Pavlovich, 2009). A firm's competitive advantage comes from a combination of different knowledge resources at the firm level rather than the individual level through business activities (Spender, 1996). Especially, knowledge is complex, tacit, and heterogeneous which is harder to imitate than raw materials, and provides the driving force for the alliances' competitiveness and performance (Barnery, 1991). Therefore, organizations are needed to integrate the specialized knowledge for creating an advantage and developing relevant organizational abilities (Knight and Cavusgil, 2004). Also, Ireland, Hitt and Vaidyanath (2002) point out that classification of "knowledge" refers to those skills, capabilities, and processes which could be critical to enhancing organizational competitiveness. Moreover, the International Standards for the Professional Practice of Internal Auditing (2008) define "intelligence" as knowledge, skills, and competencies needed to effectively carry out their professional responsibilities. In this research, internal audit intelligence focuses on the important knowledge and skills of the internal audit department to carry out internal audit works.

The significant key components of knowledge based view are knowledge, skill, competence, experience, intelligence, and due carefulness, which is embedded and carried through multiple entities such as experience, learning, and developing in the audit area (Wangcharoendate, 2010). Similarly, internal audit intelligence refers to the knowledge, skills, and competencies in audit practices (International Standards for the Professional Practice of Internal Auditing; 2008; Mihret et al., 2010; Reding et al., 2009). In addition, internal audit areas may be the evaluation of the design and effectiveness of a control system in relation to general and specific knowledge in line with a knowledge based view (Proefschrift, 2012). Hence, the mean of internal audit intelligence is the specific knowledge and skills in internal audit practice, including all organizations should take an interest in internal audit intelligence that impacts firm goal



achievement. In this research the knowledge-based view of the firm is applied to describe internal audit intelligence, which is the crucial knowledge of the firm for competitive advantage and goal achievement.

### Institutional theory

Institutional theory is a widely accepted theory which is a concept of the organization's ability to analyze organizational behavior. This theory focuses on explaining the behavior of the organization for social recognition (Meyer and Rowan, 1977; Tolbert and Zucker, 1983; Zucker, 1987). Furthermore, the key components to determinate their behaviors are institution members and the surrounding environment which cause pressure on themselves such as governmental regulations, professional association, social networks, and economic change (Arena and Azzone, 2007; DiMaggio and Powell, 1983; Meyer and Rowan, 1977). As a result, the organizations must transition and adapt themselves by implementing similar methods from the other companies such as a similar environment in their industry, in order to gain acceptance, competitiveness, survival, and goal achievement (Al-Twaijry, Brierly and Gwilliam, 2003; Sealing, Dirsmith and Fogarty, 1996; Zhou and Li, 2007). Based on the institutional theory, the process of isomorphism is divided into three ways: coercive isomorphism, mimetic isomorphism, and normative isomorphism (Al-Twaijry, Brierly and Gwilliam, 2003).

In the context of the internal audit departments within organizations, coercive isomorphism consists of those pressures exerted to establish internal audit departments. Coercion takes place through mechanisms of authority, legitimating the power to compel organizations to establish internal audit departments which not only review the efficiency and effectiveness of the organizational activities, but also affect organizational performance (Al-Twaijry, Brierly and Gwilliam, 2003). Mimetic isomorphism is a process of internal change by the organization. Mimetic isomorphism occurs when organizations find that the internal audit function contributes to an improvement in organizational control and operational performance leading to it being adopted (DiMaggio and Powell, 1983) under uncertainty in emulating practices of other organizations (Mihret, James and Mula, 2010). Consequently, numbers of increasing organizations establish the internal audit departments over time.



Normative isomorphism occurs from an increase in professionalization within organizations. This increment of professionalization can occur early through the studying of internal auditors at university and crucial by qualifying as a Certified Internal Auditor (CIA). This is likely to increase the profile of the internal audit and the CIA in organizations, and provide additional force to the diffusion of internal audit activity to other organizations (DiMaggio and Powell, 1983). Also, the increment of professionalization is likely to create a greater adherence to The Institute of Internal Auditors (IIA) standards. Abbott (1988) stated that the process of isomorphism, the internal audit profession of The Institute of Internal Auditors, is expected to legitimize internal auditing activities by demonstrating both The Institute of Internal Auditor's and the internal auditor's expertise and how this expertise can be applied to the benefit of others.

This research is focused on coercive and normative isomorphism. Coercive isomorphism explains governance vision; it is the policy of the organizational function about improving the internal audit practice in accordance with the rules, regulations and standards of the internal audit. In the meantime, internal audit learning and competency are explained with the normative isomorphism, which promotes the professional practice such as training and learning program. Therefore, the institutional theory is applied to explain the phenomena of internal audit proficiency. Internal audit proficiency is the resource of the operation systems of the organization, which is appropriate for the internal audit of an organization that depends on the ability of an organization to adapt to the changing internal factors. Internal audit intelligence within each organization is professionalism that is viewed as measures of institutional pressures for social support in the organizations (Carpenter and Feroz, 2001). Professionalization may exert different levels of impact on the advancement of the internal audit across the institutions (Carey et al., 2006; Yee et al., 2008). In this research, the institution theory is applied to explain the antecedents of internal audit intelligence.

### Contingency theory

The contingency theory is a widely interested theory in the research of management and accounting information systems, which considers both internal and external factors affecting the organization and the size of the organization and managerial practice (Anderson and Lanen, 1999; Chenhall, 2003). Contingency scholars



confirm that performance is a function of the fit between the organization and the environment and strategy and structure (Duncan, 1972). This theory demonstrates the ability of the organization to adjust or adapt to the environment that is necessary for consistency between the environment and the infrastructure (Sauser et al., 2009). In addition, Langfield-Smith (2006) proposes the link between corporate strategy, environment, technology, organizational structure, and control systems (Srikarsem and Ussahawanitchakit, 2009). Therefore, contingency maintains the appropriate fit between environment and strategy, resulting in enhanced organizational performance dependent upon firm goals, which is reflected by satisfied customers and employees (Lee and Miller, 1996).

In the internal audit context, prior research has employed the contingency theory to research between contingency characteristics and internal audit function. For example, Sampattikorn et al. (2012) examined the relationships among of top management transparency vision, corporate governance climate, employee collaboration, business competitive intensity, and internal audit practice. Moreover, Wangcharoendate and Ngamtampng (2012) employed contingency theory for a study of explanation organization context about employee competency insecurity, diversity of stakeholder needs, and internal control involvement affect internal audit outsourcing. Jokipii (2010) examined the impact of strategy, size, organizational structure, and environmental uncertainty on internal control structure and effectiveness. In addition, Woods (2009) examined risk management control system, which used contingency factors consisting of central government policies, information and communication technology, and organizational size. The results of the above study is based on the success of strategy implementation depends upon whether it fits with context of organization. Therefore, the appropriateness of different management control system mechanisms is contingent on the circumstances surrounding the organization.

This research presents a contingency model of an internal audit group, which is selected as the work group and is the basic unit of analysis of this research. Because each faces their own relationship with the environment, the elements of group communication and performance will vary depending on the requirements of the surrounding environment. Environment is particularly important for contingency: environment, different economic and technical characteristics. No way is the best, but



the number of different structures that may be suitable for different situations (Millar, 1978). According to Putnam (1989) contingency framework is applied to explain about communication between organizational groups, this research found that difference level of organizational characteristic affect to very difference outcome in group communication interactions. Therefore, this research applies intra-organizational communication capability as contingency factor to describe relationship between group performance and communication.

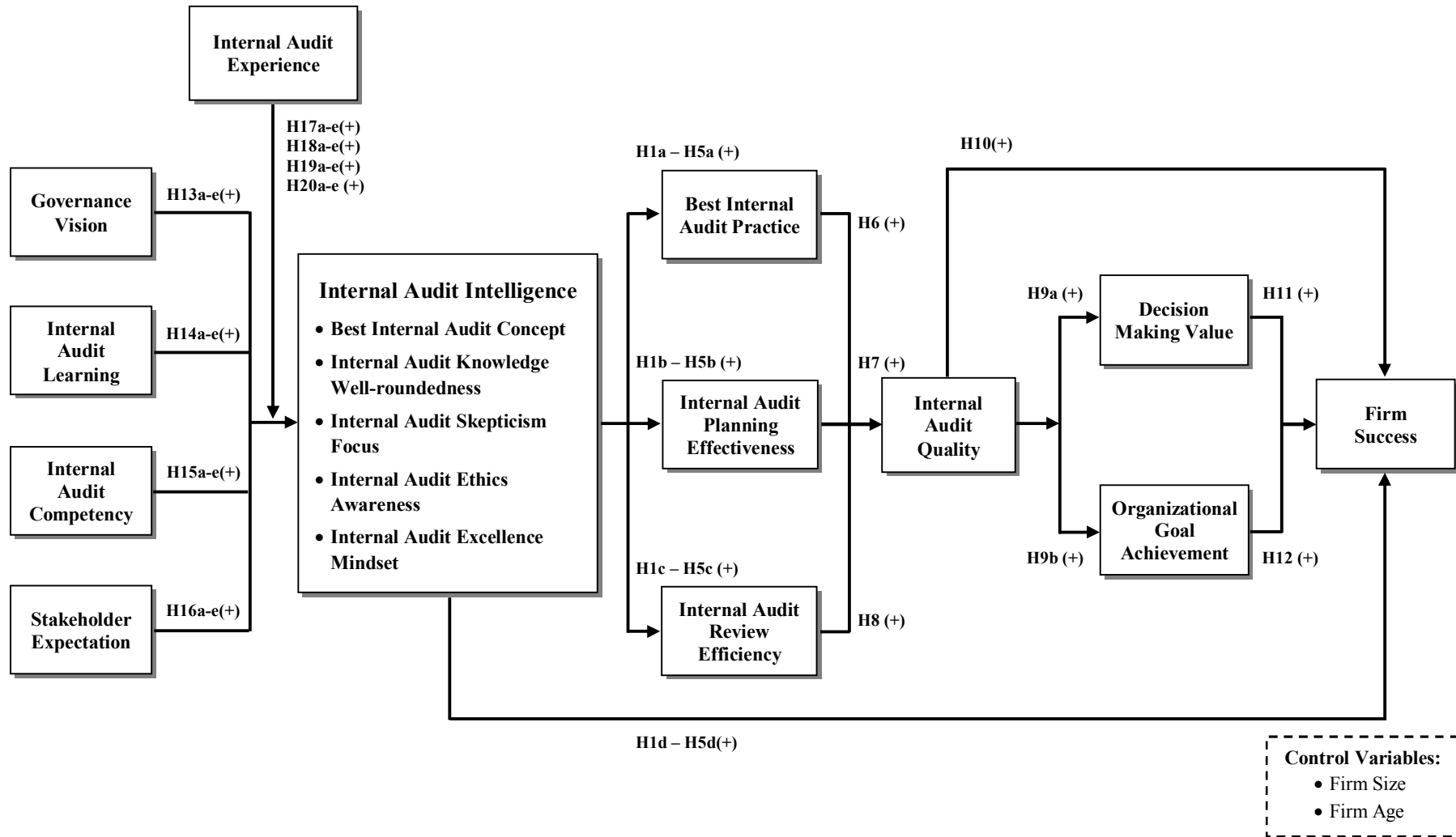
In addition, the theory is based on the argument that organizational viability depends on effective and efficient performance; it is proposed that the highest performance can be achieved when the organization responds to environmental demands in a proper way (Sener, 2012). The main reason of organizational growth and viability are the fit between internal competencies and organizational environment (Summer et al., 1990). One of third of organizational environment is environmental munificence. Hence, this research applied environmental munificence describes relationship between internal audit effectiveness and organizational goal.

Therefore, contingency theory is applied to explain two contextual variables: intra-organizational communication capability and environmental munificence. Intra-organization communication capability may enhance the association between the internal audit intelligence and its outcomes. Environment munificence is more likely to accelerate the internal audit outcome (financial reporting reliability, operational effectiveness enhancement, increment of organizational value and risk management efficiency) and firm goal achievement.

Accordingly, this research applies the three theories to describe the phenomenon of internal audit intelligence and its antecedents and consequences as shown in Figure 1.



Figure 1: Conceptual Model of Internal Audit Intelligence and Firm Success: Evidence from Thai-listed Firms



## Relevant Literature Review and Research Hypotheses

According to the theoretical foundations, internal audit intelligence and firm goal achievement are the independent and dependent variable of the research, respectively. Best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, internal audit quality, decision making value, and organizational goal achievement are the mediating variables of the research. Governance vision, internal audit learning, internal audit competency, and stakeholder expectation are also the antecedents of internal audit intelligence. Lastly, internal audit experience is the moderating variable of the research.

This research purposes that internal audit intelligence is positively associated with firm success. In addition, the antecedents of internal audit intelligence consist of governance vision, internal audit learning, internal audit competency, and stakeholder expectation which positively relate to each dimension of internal audit intelligence. Moreover, internal audit experience as a moderator assumes that internal audit experience has a positive effect on the relationships among governance vision, internal audit learning, internal audit competency, stakeholder expectation, and each dimension of internal audit intelligence. Finally, best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, internal audit quality, decision making value, and organizational goal achievement will be mediate the relationship between internal audit intelligence and firm success. Inclusively, the conceptual model of this research is presented in Figure 1.

As described earlier, internal audit intelligence explains why some firms have more competitive advantage than other firms. The definition stream of internal audit intelligence is varied as seen in Table 1.

### Internal Audit Intelligence

The importance of internal audit intelligence increases for the audit professional. Internal audit intelligence represents knowledge which allows expert auditors to perform auditing tasks faster with greater consistency and to achieve a higher quality of decision-making. Previous studies show that auditors who are intelligent in the audit task will take advantage of identifying problems, assessing risk, evaluating evidences, and performing skeptical judgment (Nelson, 2009). Internal





auditing is a challenging task, particularly when faced with a critical issue involving an auditors' professional judgment to solve their clients' problems. Clients request professional service with a high quality of staff intelligence. Tan and Libby (1997) found that while tacit managerial knowledge is important for superior performance at the audit manager level, technical skills are important for superior performance at the staff level. The problem-solving abilities distinguish superior performance at the senior rank. These findings suggest that while personality/social attributes such as tacit managerial knowledge are more important for superior performance at higher professional ranks, judgment/technical skills are more important for superior performance at the lower professional ranks. The quality of financial statement audits is dependent on the job performance of auditors. Our understanding of the determinants of auditor job performance has evolved from concentration on the quality of judgments made based on technical knowledge and ability to overall job performance, including tacit knowledge of a broad set of performance attributes including the ability to objectively evaluate subordinates. However, relatively little is known about what distinguishes auditors whose overall job performance is relatively superior (McKnight and Wright, 2011). Auditors must perform in accordance with professional standard such as accounting standard and auditing standard. Auditors should plan and control audit task to sufficient compile information and evidence in audit practice.

The early literature on intelligence in auditing focused on technical knowledge (Weber, 1980) and problem-solving ability (Bonner and Lewis, 1990). Koletar (2006) predicates that intelligence and internal audit functions are similar to each other and ask essentially the same question, although for different reasons: "There is something going on out there that I should be concerned about", which Ashton (1991) and Bonner and Lewis (1990) found that industry expertise was positively correlated with an auditor's ability to identify problems within financial statements. Likewise, audit intelligence is defined as the ability to apply specific skill to perform complex audit tasks and more provide superior quality service than competitors (Bedard, 1991; Bedard and Chi, 1993). Abbott and Parker (2000) identify industrial specialization as an auditor who acquires specific skill, experience and knowledge of client industry, and utilizes such skill to complete the audit task and provides higher quality of audit service to his clients. Moreover, auditors with high experience will gain more effective risk assessment (Bedard and Wright 1994; Yang, Moyes, Din, and Omar, 2010).



In this research, internal audit intelligence is defined as the expertise of auditors including specific skill and experience to perform more complex audit tasks and provide more superior quality service than other auditors (Nelson, 2009).

The conclusion of key literature reviews on audit intelligence shown in Table 1. It indicates that although in recent year research themes about audit intelligence has been expanded; most of those scholars are empirical and conceptual papers.

Table 1: The Definition Stream of Internal Audit Intelligence

Author(s)	Definition
Dove (1999)	Ability of an organization is the effective application of knowledge.
Fadzil, Haron, and Jantan (2005)	Sufficient knowledge in internal audit practices.
Reding, et al. (2007)	Knowledge, skills, and other ability are needed to fulfill internal audit responsibility.
International Standards for the Professional Practice of Internal Auditing (2008)	Knowledge, skills, and competencies needed to effectively carry out their professional responsibilities.
Curtis, et al. (2009)	Knowledge and skills need to perform effective and efficient audits.
Mihret, James, and Mula (2010)	Knowledge, skills, and technical ability are applied in audit practice.
Szczepankiewicz (2010)	Knowledge, skills, and experience to conduct an internal audit.
Haycock (2011)	Skills in various practices, especially a complex method.
Hauschildt and Konradt (2012)	The extent to which employees meet the requirements of the role.



In summary, this research defines internal audit intelligence as the integration of many aspects including the ability to use specialized knowledge, skills, and experiences to successes effectively of the internal audit practice (Savcuk, 2007). In addition, there is also the belief that internal audit intelligence provides the following: accurate and reliable financial and operating information, identification and reduction of risk to the organization, operations that meet the criteria satisfactorily, use of resources effectively, and the achievement of organizational objectives effectively (Sawyer, 2003).

Thus, a summary of the key literature review on internal audit intelligence is presented in Table 2.

Table 2: Summary of Key Literature Reviews on Internal Audit Intelligence

<b>Authors</b>	<b>Title</b>	<b>Independent Variables</b>	<b>Dependent Variables</b>	<b>Results</b>
Fadizil, Haron, and Jantan (2005)	Internal auditing practices control system	Internal audit practices	Quality of the internal controlsystem	The management of internal audit department. professional proficiency significantly influences internal control system.
Godwin, Stewart, and Kent (2006)	The use of internal audit byAustralian companies	Risk management	Internal audit	The strong association between internal audit and the level of commitment to risk management.



Table 2: Summary of Key Literature Reviews on Internal Audit Intelligence(Continued)

<b>Authors</b>	<b>Title</b>	<b>Independent Variables</b>	<b>Dependent Variables</b>	<b>Results</b>
Abu - Musa (2008)	Information technology and its implications for internal auditing: An empirical study of Saudi organizations	Information technology	Internal audit	The result of the study reveals that internal audit needs to enhance their knowledge and skills for the purpose of planning, directing, supervising, and reviewing the work performed.
Barac, Plant, and Motubatse (2009)	Perceptions on the value added by South African internal audit functions	Internal audit function	Add value	The internal audit functions about recommendation of internal audit functions are implemented, internal audit functions are good managed and not exploited by other functions within organizational affect organizational value increase.
Mihret, James, and Mula (2010)	Antecedent and organizational performance implications of internal audit effectiveness: Some propositions and research agenda	Organizational attributes and internal audit effectiveness	Organizational performance	Positions and research agenda are provided on potential antecedents of internal audit effectiveness and its possible relationship with company performance.



Table 2: Summary of Key literature Reviews on Internal Audit Intelligence (Continued)

<b>Authors</b>	<b>Title</b>	<b>Independent Variables</b>	<b>Dependent Variables</b>	<b>Results</b>
Samuel and Afiah (2010)	The impact of objectivity, proficiency and due professional care of auditors to quality of performance audit results: Survey on audit teams of Jakarta Provincial Inspectorate	Objectivity, proficiency and due professional care	Quality or performance	Proficiency of Jakarta Provincial Inspectorate auditors found that participation of technical training related to performance audit, certification of technical training related to performance audit, participation of others training and certification of others training proved giving positive influence to their quality of performance audit results.
Abu – Eker, et al. (2011)	Assessment of electronic processes internal audit at tourist hotels in Aquba	Objective, independent, professional proficiency	Process efficiency	Internal auditors have objective, independent, and professional proficiency cause audit effectively and effectiveness.



Table 2: Summary of Key Literature Reviews on Internal Audit Intelligence(Continued)

<b>Authors</b>	<b>Title</b>	<b>Independent Variables</b>	<b>Dependent Variables</b>	<b>Results</b>
Akins (2011)	An examination of government internal audits' role in improving financial performance	Government internal audits' role	Financial performance	Local government auditors perform more audits in operational areas that deal with fiscal receipts and outlays. Additionally, auditors' work significantly influences local government financial performance both directly and indirectly through improvements in internal controls and efficiency of operations.
Al – jabali, Abdalmanam, and Ziadat (2011)	Internal audit and its role in corporate governance	-	-	The major activities of governance are the same activities are essential in this profession. Therefore, internal audit should be fully prepared to audit the ongoing operations of the company and control systems of



Table 2: Summary of Key Literature Reviews on Internal Audit Intelligence(Continued)

<b>Authors</b>	<b>Title</b>	<b>Independent Variables</b>	<b>Dependent Variables</b>	<b>Results</b>
				accounting, administrative, tactical operation performance in the company, internal auditor should possess the skills and knowledge of analytical thinking for a full understanding of the company's activities.
Al – Shetwi et al. (2011)	Impact of internal audit function (IAF) on financial reporting quality (FRA): Evidence from Saudi Arabia	Internal audit function	Financial reporting quality	The weak association between IAF qualm and FRQ. The findings imply that the listed firms merely use IAF to provide a symbolic conformity to capital market authority (CMA) regulations.
Burnaby and Hass (2011)	Internal auditing in the Americas	-	-	In the USA, Canada and Latin American countries in their application and compliance with standards and



Table 2: Summary of Key Literature Reviews on Internal Audit Intelligence(Continued)

<b>Authors</b>	<b>Title</b>	<b>Independent Variables</b>	<b>Dependent Variables</b>	<b>Results</b>
				the kinds of skills and competencies respondents indicate are important for the practice of internal auditing.
Kane and Borgatti (2011)	Centrality – IS proficiency alignment and workgroup performance	Proficiency	Performance outcome	The group members' proficiency is distributed across the group's social network affect performance outcome.
Matarnedh (2011)	Factors determining the internal audit quality in banks: Empirical evidence from Jordan	Internal audit (Proficiency)	Quality of internal audit	The proficiency of internal audit as important factors affecting the internal audit quality.
Salmeh et al. (2011)	Alternative internal audit structures and perceived effectiveness of internal audit in fraud prevention	Fraud prevention	Effectiveness of internal audit	One of the crucial reasons for these results is that in-house internal audit units have more in depth-knowledge about culture, policies, and procedures inclusion





Table 2: Summary of Key Literature Reviews on Internal Audit Intelligence(Continued)

<b>Authors</b>	<b>Title</b>	<b>Independent Variables</b>	<b>Dependent Variables</b>	<b>Results</b>
				experience in fraud prevention and detection than outsourced auditors.
Unegbu and Kida (2011)	Effectiveness of internal audit as instrument of improving public sector management			The internal audit can effectively check fraud and fraudulent activities in the public sector and that significant numbers of internal audit departments to function effectively.
Gras-Gil, Marin-Hernandez, and Lema (2012)	Internal audit and financial reporting in the Spanish banking industry	Internal audit function	Financial reporting quality	The high quality financial reporting has greater collaboration between internal and external auditors in the annual audit. Greater involvement of internal audit in reviewing financial reporting led to improved quality financial reporting.
Hauschildt and Konradt (2012)	Self-leadership and team members' work role performance	Team proficiency	Work performance	The result indicates positive relationships between team member proficiency and performance.



Table 2: Summary of Key Literature Reviews on Internal Audit Intelligence(Continued)

<b>Authors</b>	<b>Title</b>	<b>Independent Variables</b>	<b>Dependent Variables</b>	<b>Results</b>
Ramachandran, Subramanian, and Kisoda (2012)	Effectiveness of internal audit in Tanzanian Commercial Banks	Internal audit resource and competencies	Internal audit effectiveness	The increase in the level of internal audit resource and competencies will also result in an increase in the level of internal audit effectiveness. Importantly, internal auditors' competencies play an important part in enhancing the quality of auditors' report.
Ali and Owais (2013)	Internal auditors' intellectual (Knowledge) dimension in creating value for companies	-	-	The internal auditors must be keen to develop their skills and technical experience in order to increase the company's efficiency and its value.



Table 2: Summary of Key Literature Reviews on Internal Audit Intelligence(Continued)

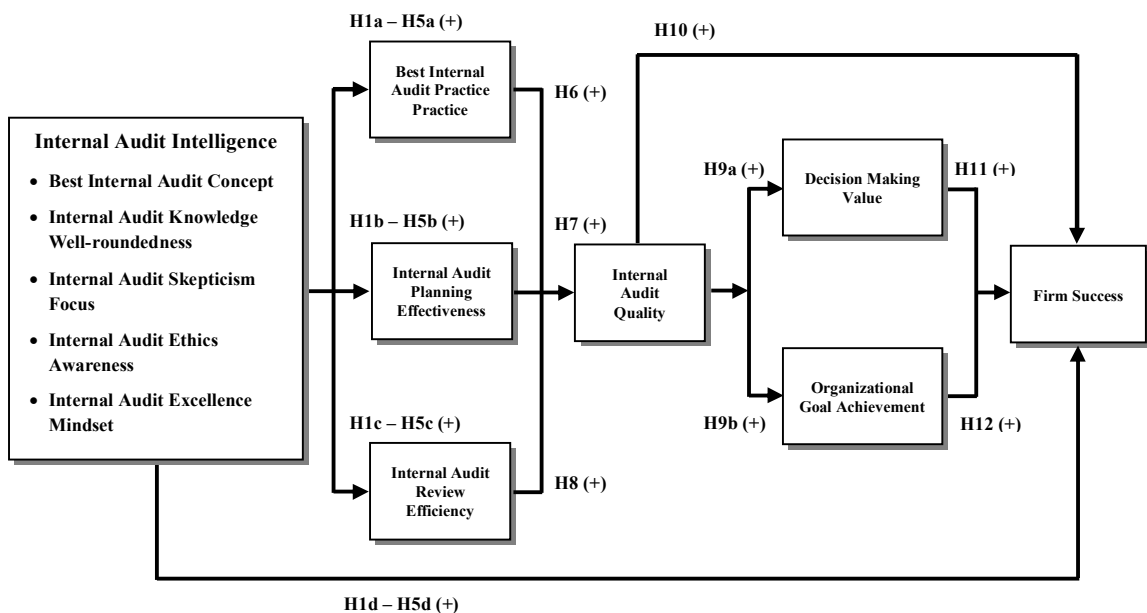
<b>Authors</b>	<b>Title</b>	<b>Independent Variables</b>	<b>Dependent Variables</b>	<b>Results</b>
Havelka and Merhout (2013)	Internal information technology audit process quality: Theory development using structured group processes	Audit organization, audit personnel client organization	Audit quality	The ability to perform specific audit rely ability to identify control weaknesses, ability to understand and document business process and the level of expertise with audit tools and techniques.
Henderson, Davis, and Lapke (2013)	The Effect of internal auditors' information technology knowledge on integrated internal audits	General controls knowledge, application controls knowledge, audit productivity software knowledge, and risk knowledge and encourage to learn	Integration approach	Results show that knowledge of risks and application controls have a significant impact on the level of integrated internal audits. In addition, internal audit managers should allocate training budgets toward increasing knowledge of risks and application controls.



## The Effects of Internal Audit Intelligence on Its Consequences

This part emphasizes the effects of the five dimensions of internal audit intelligence consisting of best internal audit concept, internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset on its consequences, internal audit quality, decision making value, organizational goal achievement, and firm success as show in figure 2 below.

Figure 2: The Effect of Internal Audit Intelligence on Its Consequences



### Best Internal Audit Concept

Due to the dynamic changes in the environment, the companies are trying to create an internal audit system of management to achieve a sustainable competitive advantage (Bielinska-Dusza, 2011). Internal audit practice is an audit procedure performed by a firm's own personnel to check for completeness and accuracy (Sueyoshi et al., 2009). Internal auditing is executed in various environments and within organizations which differ in objectives, laws, and customers (Rameesh, 2003). These differences may affect the practice of internal auditing in each environment. According



to Abdolmohammadi and Tucker (2002), the degree of economic development of a country will have an impact on the internal audit practice in that country.

Internal audit is a value-added activity; it is important for the internal audit to comply with the Standards for the Professional Practice of Internal Auditing (Al-Twaijry et al., 2003; Lee and Ismail, 2010), which is the best practice. Best concept to the techniques, methods, processes, and procedures combined into practice and improve business results for the organization (O'Dell and Grayson, 1997). In addition, the successful best practice of the internal audit includes project management techniques to ensure that plans are achieved and alter management techniques to facilitate change (Rameesh, 2003). Hence, best practice enhances change management techniques and processes successfully including increase the basic internal audit strategies. This research defines the best internal audit concept as the ability to apply knowledge and skills of techniques, processes, methods, and procedures to keenly assess the likelihood of risky events and to identify ways of reducing the likelihood of occurring events to achieve the audit goals effectively.

The existing literature on internal audit practice concept differing evidence as follows: internal audit concept is not only related to risk management and value added auditing, but also finds that the use of processes, procedures, techniques, and tools in the internal audit practice towards best practice to achieve outcome (Allegrini and D'Onza, 2003; Gilson, 2004; Roth, 2003; Sarens and Abdolmohammadi, 2011). Moreover, the reliability and accuracy of financial reporting is a result of good accounting concept in accordance with Generally Accepted Accounting Principles (GAAP). The accounting concept help to accounting control and audit, systematic practice consistent with accounting standards to be transparent and easily checked (Byington and Chrisensen, 2005). In addition, Havelka and Merhout (2013) stated that operational skill affect operation and also improve the operation and performance of organization to achieve organization's goals and objectives (Berber et al., 2012). Hence, best internal audit practice affects good internal audit control that leads to financial reporting reliability, value-added, reduced risk, and increased operational efficiency. The results also show that the firms may have good accounting concept, but if lack knowledge and understanding of practice that lead to outcome that errors and unreliable (Ninlaphay et al., 2012).



In summary, best internal audit concept is a potential possibility that affects to provide a gain greater best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, and firm success. Thus, the hypotheses are proposed as follows:

***Hypothesis 1a: The higher the best internal audit concept is, the more likely that firms will gain greater best internal audit practice.***

***Hypothesis 1b: The higher the best internal audit concept is, the more likely that firms will gain greater internal audit planning effectiveness.***

***Hypothesis 1c: The higher the best internal audit concept is, the more likely that firms will gain greater internal audit review efficiency.***

***Hypothesis 1d: The higher the best internal audit concept is, the more likely that firms will gain greater firm success.***

#### Internal Audit Knowledge Well-roundedness

Internal audit knowledge refers to the administration of the business practices to create the highest level of efficiency possible within an organization. Internal audit knowledge is concerned with converting materials and labor into goods and services to maximize the profits of the organization. Moreover, well-roundedness involves a variety of aspects such as knowledge, skills, expertise, and other competencies related to internal audit knowledge. In this research, internal audit knowledge well-roundedness is defined as the ability to manage the operations of the organization relating to corporate governance, designing, and redesigning the business operation associated with converting the resources into products and services as efficiently as possible to maximize the profits of an organization.

For the organization to be successful, the organization should be successful in operational management, finance, and marketing divisions (Heizer and Render, 2008). Most especially, operational management is the activities that are performed to produce goods or services by changing inputs into outputs (Ghrairi, 2011). Internal audit



knowledge is more focused on enhancing firm effectiveness and efficiency through process improvement, planning, and control (Mentzer, Stank, and Esper, 2008). Thus, attainments in internal audit knowledge is important for correct decision making on certain matters such as quality management, service and product design, process and capacity design, location, layout design, human resources and job design, supply chain management, material requirements planning, short-term and project scheduling, and maintenance. Hence, internal audit knowledge well-roundedness affects valuable unique decision making because of its recognized by all parties involved and it also affects firm success.

Previous studies indicated that the ability of internal audit knowledge well-roundedness has an impact on firm performance (Ghraiiri, 2011; Herri, 2011; Tanriverdi, 2005). Furthermore, internal audit knowledge well-roundedness is more directly concerned with the improvement of processes particularly those that are related to the coordination of the cross-functional interfaces within a firm (Mentzer, Stank, and Esper, 2008). Therefore, internal audit knowledge well-roundedness that focuses on coordination, both within and outside the organization, lead to business survival and sustainable business growth. For instance, operational management well-roundedness and supply-chain management can facilitate the creation of a sustainable competitive advantage that can lead to firm growth and new business development (Zott and Amit, 2007). Thus, these ideas lead to posit the following hypotheses:

From the aforementioned, the internal audit knowledge well-roundedness is a potential possibility that affects to provide greater best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, and firm success. Thus, the hypotheses are proposed as follows:

***Hypothesis 2a: The higher the internal audit knowledge well-roundedness is, the more likely that firms will gain greater best internal audit practice.***

***Hypothesis 2b: The higher the internal audit knowledge well-roundedness is, the more likely that firms will gain greater internal audit planning effectiveness.***



***Hypothesis 2c: The higher the internal audit knowledge well-roundedness is, the more likely that firms will gain greater internal audit review efficiency.***

***Hypothesis 2d: The higher the internal audit knowledge well-roundedness is, the more likely that firms will gain greater firm success.***

#### Internal Audit Skepticism Focus

Internal audit skepticism focus is the main construct in this research. Although professional skepticism is an important concept that is mentioned frequently in both audit standards and internal audit practice (Hurt, 2010; Nelson, 2009), there are some issues to be discussed. Firstly, what is skepticism? In general, skepticism refers to any questioning attitude or doubt regarding knowledge, facts, or opinions (Ditto and Lopez, 1992). From the viewpoint of auditing professions, skepticism can be considered in two positions, a neutral view and a presumptive doubt view (Nelson, 2009). From the neutral view, auditors should perform audit tasks with effortful and without bias (Hurt, 2010). Hence, under the neutral view an auditor must perform with an unbiased judgment and be alert to fraud or error indicators. In contrast, the presumptive doubt view requires auditors to work hard on evidence gathering and pay effortful attention to evidence which indicate any misstatements (Nelson, 2009). This view requires auditors to accumulate substantial evidence to reduce risk at an acceptable level. However, most audit standards and internal audit practices utilize the neutral view as a fundamental concept, so in this research implements the neutral view of professional skepticism.

The definition of professional skepticism has been discussed from the earliest auditing standards until nowadays. For example, the International Auditing Standards 200 (IAS 200) requires auditors to diligently perform audit tasks without bias or assumption of managements' dishonesty (IAASB, 2011). Furthermore, auditors must utilize and maintain appropriated level of professional skepticism in audit strategy formulation (IAS 300), gathering and evaluating evidence (IAS 500), and reporting (IAS 700). These similar requirements appear in a statement of auditing standards in the United State of America. Although the concept of skepticism is generally accepted in a practical matter, academic literature inconsistently defines skepticism. For example, Shaub and Lawrence (1996) identify skepticism as trust between auditors and clients,





while Carpenter, Durtschi and Gaynor (2002; 2011) consider skepticism as the ability to detect fraud. In addition, Bamber, Ramsay and Tubbs (1997) indicate that skepticism is the auditors' reaction to new information or evidence obtained.

However, some research shows a congruence of definitions between academic and practical standards. Many researchers identify the definitions of professional skepticism from both viewpoints, for example, Nelson (2009) chooses the presumptive doubt view and defines professional skepticism as the auditors' care judgment and decisions based on information obtained from the clients. In contrast, Hurtt (2010) employs the neutral view and indicates that professional skepticism is multidimensional traits that reflect deferring judgment until sufficient evidence is obtained and considering evidence providers and ability to effectively react on information obtained. According to Mccoy et al. (2011), professional skepticism can be applied to an internal audit department as an evaluation process that involves in-depth analysis of auditees, effective reaction to suspicious problems, and validation of information obtained.

The second issue is skepticism research should be implemented by firms or individual. Most prior research on professional skepticism focuses on the individual auditing profession. Research streams of individual skepticism are composed of how auditors implement skepticism in audit tasks, which in turn, enhance audit quality (Bowlin, Hobson, and Piercey, 2011; Hurtt, Fining, and Plumlee, 2008; Kent, Munro, and Gambling, 2006; McMillan and White, 1993; Nelson and Tan, 2005; Payne and Ramsy, 2005; Quadackers, Groot, and Wright, 2008) and how audit firms elevate professional skepticism of their staff (Carpenter, Durtschi, and Gaynor, 2011; Nelson, 2009; Nieschwietz, Schultz Jr., and Zimbelman, 2000). However, many regulators point out that audit firms must promote their skepticism within the firms (Audit Practice Board, 2010; PCAOB, 2007; Wedemeyer, 2010). Professional skepticism has been emphasized by auditing standards and encourages audit firms to implement skeptical judgments made by the audit engagement team (Wedemeyer, 2010). Furthermore, the internal audit departments operate and judge audit evidence and perform as governance tools in the firms. This internal audit task is similar to the external auditors. Hence, it is reasonable to assume that the professional literature can also be applied to the internal audit departments (Audit Practice Board, 2010; Carpenter, Reimers, and Fretwell, 2011; IAASB, 2011; Mccoy et al., 2011; Nelson, 2009).



In this research, internal audit skepticism focus is defined as the characteristics that enable the internal audit department to perform internal audit tasks with a questioning mind; be alert to irregular conditions, and ongoing validated evidence and conclusions. These skeptical characteristics reflect a questioning mindset review; being alert to conditions that may indicate risk and internal control weakness, and critical subjective assessment of risk; internal control and internal audit planning designation. The implementation of professional skepticism into an internal audit department will enable skeptical behaviors and actions that may enhance internal audit effectiveness (Mccoy et al., 2011). Skeptical attributes will drive internal auditor behavior to perform internal audit tasks with a skeptical mindset (IAASB, 2011; Nelson, 2009). Therefore, internal audit skepticism focus is composed of questioning mindset integration, uncertainty awareness and correction, ongoing internal control monitoring, and internal audit review orientation.

Thus, internal audit skepticism focus is an internal audit department capability derived from implementation of relevant professional skepticism to diligently performing internal audit tasks. To confirm this theoretical framework, a great number of previous researches are empirically investigated. The results indicate that auditors with higher professional skepticism can enhance their audit outcome ability such as detecting error or fraud, making accurate risk assessment and control, having operation consultancy effectiveness, and improving authorization and internal control effectiveness; therefore, firms can maximize their firm value. Therefore, the hypotheses are proposed as follows:

***Hypothesis 3a: The higher the internal audit skepticism focus is, the more likely that firms will gain greater best internal audit practice.***

***Hypothesis 3b: The higher the internal audit skepticism focus is, the more likely that firms will gain greater internal audit planning effectiveness.***

***Hypothesis 3c: The higher the internal audit skepticism focus is, the more likely that firms will gain greater internal audit review efficiency.***



***Hypothesis 3d: The higher the internal audit skepticism focus is, the more likely that firms will gain greater firm success.***

#### Internal Audit Ethics Awareness

The objective of the review is to ensure that the audits are in accordance with generally-accepted auditing standards and company policies and procedures which the effect of review as the feedback and effects on preparer behavior after the reviews have not received much attention (Miller, Fedor, and Ramsay, 2006). The review process is shifting from a sequential to more real-time process (Wilk, 2002). An important function of the review process is to ensure the quality and work under pressure of time which may result in the reduced performance of the auditor (Agoglia, Kida, and Hanno, 2003). A review can be done by reading the workpaper and notes for following up and improving in the general review. Knowledge is the key factor in the spreadsheet. The review process will reduce the variance of the decision. The judgment will come from the review of the audit (Ramsay, 1994).

Audit reviewers play a critical role to improve the quality of the audit by ensuring that the conclusions reach prevention (Tan and Shankar, 2010). The audit review process helps public accounting firms control quality, and it also provides information for performance appraisal and timely feedback. Reviewers must objectively assess their subordinates' work for the review process to achieve objectives (Tan and Jamal, 2001). Reviewers often work with a regular group of preparers with which reviewers become familiar and with the subordinates whose performance they must assess. This familiarity with subordinates can improve the efficiency and effectiveness of the review process (Tan and Jamal, 2001).

Auditing standards require that auditors assess all relevant evidence in an unbiased and objective method (Guiral, Ruiz, and Rodgers, 2011) and require auditors to consider the reliability of the evidence they use in making judgments (Reimers and Fennema, 1999). The audit review process is an integral part of the quality control approach in audit practice and standards (Favere-Marchesi, 2006). Audit practice tends to become more interactive, including face-to-face discussions between the preparers and the reviewers (Wilk, 2002). The review process is a control mechanism implemented by CPA firms to enhance the quality of the workpaper documentation, conclusions made



(Tan and Trotman, 2003), and proper rendering of the audit judgments (Tan and Shankar, 2010). The review is a part of the quality control mechanism in the implementation and auditing standards (Agoglia, Hatfield, and Brazel, 2009; Favere-Marchesi, 2006; Ismail and Trotman, 1999), and as a part of quality control procedures of the financial statements audits. This documentation is prepared by the auditors and reviewed by supervisors (Miller, Fedor, and Ramsay, 2006).

Internal audit ethics awareness is an important source of accountability for field auditors, and the anticipation of review increases audit effort and improves audit performance (Payne, Ramsay, and Bamber, 2010). Internal audit ethics awareness is a primary means of audit quality control and auditor training (Payne, Ramsay, and Bamber, 2010). In addition, the conduct of the audit, and external quality reviews are important tools to enhance audit quality (Favere-Marchesi, 2000).

In this research, internal audit ethics awareness refers to the audits that perform tasks in accordance with generally accepted auditing standards, firm policies, and procedures including the anticipation of review, increases audit effort, and improves audit performance (Miller, Fedor, and Ramsay, 2006; Payne, Ramsay, and Bamber, 2010). Internal audit ethics awareness plays an important role in audit work. Therefore, audit review awareness has an effect on audit value increase, audit report quality and financial information usefulness. It can have consequences on audit survival because auditors wish to survive the professional auditing. Thus, the hypotheses are proposed as follows:

***Hypothesis 4a: The higher the internal audit ethics awareness is, the more likely that firms will gain greater best internal audit practice.***

***Hypothesis 4b: The higher the internal audit ethics awareness is, the more likely that firms will gain greater internal audit planning effectiveness.***

***Hypothesis 4c: The higher the internal audit ethics awareness is, the more likely that firms will gain greater internal audit review efficiency.***



***Hypothesis 4d: The higher the internal audit ethics awareness is, the more likely that firms will gain greater firm success.***

#### Internal Audit Excellence Mindset

Currently, the business environment has changed. To survive with more challenging competition, firms need to adapt to harmonize to a competitive and changing environment, and focus on survival in the long term (Wheelen and Hunger, 2008). In the rapid changes, flexibility has become more important, because it is an ability of a firm to adjust and try to find a new opportunity to timely respond to environment (Birkinshaw, 2000). Thus, the hypotheses are proposed as follows:

***Hypothesis 5a: The higher the internal audit excellence mindset is, the more likely that firms will gain greater best internal audit practice.***

***Hypothesis 5b: The higher the internal audit excellence mindset is, the more likely that firms will gain greater internal audit planning effectiveness.***

***Hypothesis 5c: The higher the internal audit excellence mindset is, the more likely that firms will gain greater internal audit review efficiency.***

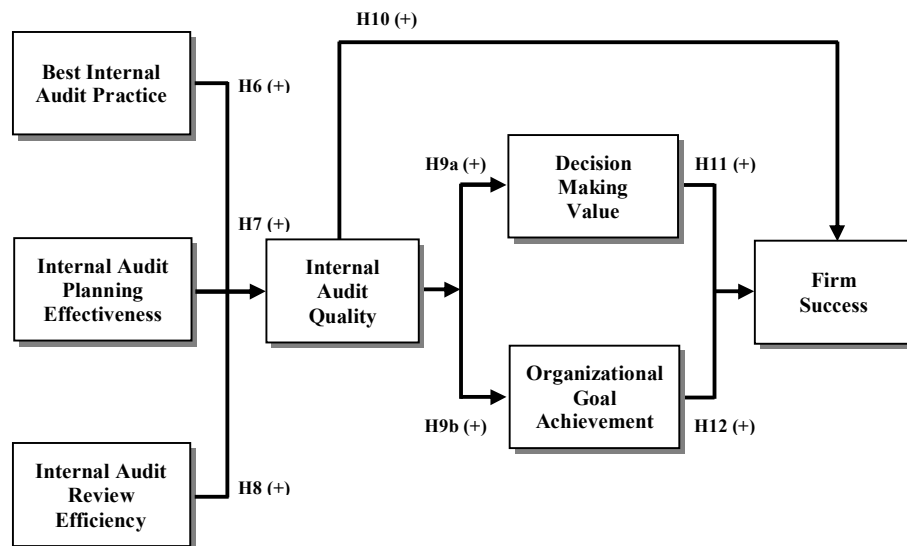
***Hypothesis 5d: The higher the internal audit excellence mindset is, the more likely that firms will gain greater firm success.***

#### **The Effects of the Consequences of Internal Audit Intelligence on Firm Success**

This part emphasizes the effects of best internal audit practice, internal audit planning effectiveness, and internal audit review efficiency on firm success as show in Figure 3.



Figure 3: The Effect of Best Internal Audit Practice, Internal Audit Planning Effectiveness, and Internal Audit Review Efficiency on Firm Success



### Best Internal Audit Practice

Due to the dynamic changes in the environment, the companies are trying to create an internal audit system of management to achieve a sustainable competitive advantage (Bielinska-Dusza, 2011). Internal audit practice is an audit procedure performed by a firm's own personnel to check for completeness and accuracy (Suevoshi et al., 2009). Internal auditing is executed in various environments and within organizations which differ in objectives, laws, and customers (Rameesh, 2003). These differences may affect the practice of internal auditing in each environment. According to Abdolmohammadi and Tucker (2002), the degree of economic development of a country will have an impact on the internal audit practice in that country.

Internal audit is a value-added activity; it is important for the internal audit to comply with the Standards for the Professional Practice of Internal Auditing (Al-Twajry et al., 2003; Lee and Ismail, 2010), which is the best practice. Best practice refers to the techniques, methods, processes, and procedures combined into practice and improve business results for the organization (O'Dell and Grayson, 1997). In addition, the successful best practice of the internal audit includes project management techniques to ensure that plans are achieved and alter management techniques to facilitate change (Rameesh, 2003). Hence, best practice enhances change management techniques and



processes successfully including increase the basic internal audit strategies. This research defines best internal audit practice as the ability to apply knowledge and skills of techniques, processes, methods, and procedures to keenly assess the likelihood of risky events and to identify ways of reducing the likelihood of occurring events to achieve the audit goals effectively.

The existing literature on internal audit practice provides differing evidence as follows: internal audit practice is not only related to risk management and value added auditing, but also finds that the use of processes, procedures, techniques, and tools in the internal audit practice towards best practice to achieve outcome (Allegrini and D'Onza, 2003; Gilson, 2004; Roth, 2003; Sarens and Abdolmohammadi, 2011). Moreover, the reliability and accuracy of financial reporting is a result of good accounting practices in accordance with Generally Accepted Accounting Principles (GAAP). The best accounting practices help to accounting control and audit, systematic practice consistent with accounting standards to be transparent and easily checked (Byington and Chrisensen, 2005). In addition, Havelka and Merhout (2013) stated that operational skill affect operation and also improve the operation and performance of organization to achieve organization's goals and objectives (Berber et al., 2012). Hence, best internal audit practice affects good internal audit control that leads to financial reporting reliability, value-added, reduced risk, and increased operational efficiency. The results also show that the firms may have good accounting practices, but if lack knowledge and understanding of practice that lead to outcome that errors and unreliable (Ninlaphay, Ussahawanitchakit and Boonlua, 2012).

In summary, best internal audit practice is a potential possibility that affects to provide greater financial reporting reliability, increased operational effectiveness, added organizational value, and risk management efficiency. Thus, the hypothesis is proposed as follows:

***Hypothesis 6: The higher the best internal audit practice is, the more likely that firms will gain greater internal audit quality.***



### Internal Audit Planning Effectiveness

In general, audit planning is internal audit activities about to determine audit strategy. The audit planning is updated to reflect changes in the organization's business, operations, systems, controls, and objectives. The chief audit executive must establish risk-based plans to determine the priorities of the internal audit activity consistent with the organization's goals (Institute of Internal Auditors (IIA), 2009). The internal audit planning effectiveness should also consider those activities most affected by recent or expected changes. As a result, the planning should be flexible in order to make the change during the year as a result of strategic change management expectations of achieving firm objectives (Ljubisavljevic and Jovanovic, 2011). Planning is valuable when the information outcome is reliable and decision making relevant. Consistent with Davidson and Gist (1996), internal audit effectiveness and efficiency depends on the planning strategy process. Moreover, the audit planning process should include the assessment of audit risk (IIA, 1978; Sueyoshi et al., 2009). Especially, in the implementation of the internal audit of a firm with high growth and the expansion of existing businesses, an organization needs internal audit planning, as it helps an organization achieve its goals (American Institute of Certified Public Accountants (AICPA), 2002; IIA, 2003). The ability to combine knowledge, skill, and experience to internal audit function and translate them into an action plan is more likely to improve the management of risk, added value, and improve the operation of businesses (Sampattikorn et al., 2012). Consequently, audit planning has become the main activity which auditors have implemented in order to achieve audit report efficiency, gain audit performance, and enhance audit success (Ussahawanitchakit, 2012).

Integrative internal audit planning is the second dimension of internal audit proficiency. This dimension of internal audit function or activity focuses on linkage among audit guidelines objectives, goals, and resources. In the internal audit context, internal audit should include planning the complete review of the framework for the management and review of policies, processes and procedures for the identification, evaluation, monitoring, and control of operations (Fernandez-Laviada, 2007). In addition, internal audit should adjust the internal audit planning and procedures in order to ensure suitable supervision. Consequently, internal audit planning affects actions and adds value to the organization, which has an important role to focus on governance and





effectiveness in the business process (Pickett, 2006). If the audit is planned properly, it will result in a quality audit. Appropriateness and adequate planning ensure the success of the audit and improving efficiency (Mihret and Yismaw, 2007). Similarly, Watson (2007) stated that internal audit planning should be planned with a holistic view of the nature and significance of the risks facing the business, rather than focusing only on the risks of the financial reports.

The audit working papers provide the documentary evidence of audit planning in the form of an audit plan, determines the objectives and scope of the audit, and the techniques and resources to be used by the auditor (Rameesh, 2003). Hence, the integrative internal audit planning refers to the ability to apply knowledge of the entity's business to formulate internal audit strategy and link a set of guidelines on goals, objectives, and resources to ensure the goals of the organization are covered. However, Goodwin (2004) stated that the differences of each country are likely to impact aspects of the audit, including the assessment of client risks and subsequent audit planning decisions. Similarly, Martinis et al. (2011) found that the differences of a country and client type affect audit planning. Therefore, internal audit planning should be holistic view of objective and goal in order to reduce risk, the internal audit department must develop an audit plan that ensures a maximum coverage of the areas to be audited (Hemaida, 1997). Internal audit planning is incomplete leads to loss of internal audit activities to bear the risk of organizational (Popescu and Omran, 2011). In addition, planning skills can help internal audit provide highly useful input to the enterprise risk management process (Schneider, Sheikh, and Simione, 2012). On the other hand, the lack of knowledge, skill, and experience that is necessary for audit planning of internal auditors may be ignore some critical activities as the material weakness (Backer, 2010; Ge and McVay, 2005). As a result, usefulness of financial information for making decision decreased, which is not enhances organizational value (Sori, 2009). In summary, internal audit planning effectiveness is a potential possibility that affects to provide greater firm success. Hence, the hypothesis is proposed below:

***Hypothesis 7: The higher the internal audit planning effectiveness is, the more likely that firms will gain greater internal audit quality.***



### Internal Audit Review Efficiency

Review of the work performed is an integral part of the audit quality control process (IAASB, 2010). A peer review enables knowledge and experience sharing between expert and less experienced audit teams (Tan and Shankar, 2010). Furthermore, critical problems and audit risks can be resolved by a timely and questioning mind review (IAASB, 2011; Nelson, 2009). According to professional standards, an audit review and discussion among an audit team are required in order to enhance susceptibility of the audit team and enhance audit quality (AICPA, 2002; IAASB, 2010). Reviewers must continuously evaluate their subordinates' audit tasks and frequently discuss and brainstorm in order to share information and understanding of client business during the audit process (AICPA, 2002; IAASB, 2010; Tan and Shanker, 2010). Therefore, a skeptical peer review between the audit teams can reduce the risk of overlooking conditions that may indicate errors or fraud and strengthen the quality of audit judgment (Carpenter, 2007; Harding and Trotman, 2011). The defensible audit conclusions are reached with a skeptical review process.

In this research, an internal audit review efficiency is defined as the capability to continuously brainstorm, appraise, and reconsider the internal audit works and conclusions to ensure that the internal audit task is complied with professional standards, assurance and auditing guideline, and firm policies and procedures (Carpenter, 2007; Gissel, 2010; Harding and Trotman, 2011; Hurtt, Eining and Plumlee, 2011; Payne, Ramsay and Bamber, 2010). It also includes emphasis on appraise and brainstorm with a questioning mind and openness until sufficient evidences are collected. Based on considerable literature, reviewers or partners can communicate and share information among audit members which can affect audit tasks (i.e., audit judgment) (Payne, Ramsay and Bamber, 2010; Rich, Solomon and Trotman, 1997; Tan and Shanker, 2010; Tan and Tan, 2008). The shared information includes internal control weakness and the likelihood of management fraud and risk assessment. However, as discussed earlier, implementing only an audit review may not be sufficient to achieve high audit quality. Internal audit functions should implement the concept of professional skepticism into their review process (Mccoy et al., 2011).

Professional skepticism is necessary for the review process. During the review process, there are discussions, brainstorming, knowledge and experience sharing and



transferring. Hence, professional skepticism can be shared and transferred leading to the enhancement of audit review quality. The reviewers may question inconsistent information and protest the incongruent conclusion (Carpenter, Reimers and Fretwell, 2011). Skepticism not only has an advantage to the reviewer, but it also is beneficial to audit members that can notice the situations that indicate errors or fraud, controls weakness, and inefficient operations (Carpenter, 2007; Gissel, 2010; Harding and Trotman, 2010; Hurtt, 2010; Nelson, 2009). In addition, an audit review may enable internal audit teams to not easily accept conclusion and evidence until sufficient and competent information is obtained (Fullerton and Durschi, 2005).

Although, discussions and brainstorming are not required as internal audit functions, standard setters and academic researchers suggest that skeptical discussion among audit teams may enhance the work quality (Carpenter, Reimers and Fretwell, 2011; IAASB, 2011; IIA, 2010). Internal audit review may provide the feedback about operation weakness and helpful to other functions (Driessen and Molenkamp, 1993; Fernandez-Laviada, 2007), which in turn, improves the operation's process (Bowersox et al., 1999; Su and Yang, 2010). In addition, internal audit review process may positively impact error detection, and the effectiveness of analytical procedures (Rich, Solomon and Trotman, 1997), and comprehensive risk assessment (i.e., legal compliance risk, operational risk, and financial risk) (Carpenter, Reimers and Fretwell, 2011). Internal audit teams may detect the errors, fraud, and any deviation from standards during the skeptical review. Likewise, an internal audit team which employs skepticism may enhance the quality of their work (Fullerton and Durtschi, 2005). High audit quality leads to confidence and reliable information which leads to improving operational excellence. Based on the previous literature, the related hypotheses are postulated as follows:

***Hypothesis 8: The higher the internal audit review efficiency is, the more likely that firms will gain greater internal audit quality.***

#### Internal Audit Quality

Internal audit is the activities of assurance and consultation, independence and non-bias to enhance the value of firms and achieve set goals. Moreover, it also is the



evaluation tool to improve the effectiveness of risk management, control, and governance processes (Mihret and Yismaw, 2007). Internal audit function is likely to affect the management and evaluation of an external auditor of the effectiveness of internal control. The lower internal audit function quality can be a material weakness in internal control, of which the existence of internal control effectiveness is to verify that firms have an incentive to obtain quality internal audits (Fadzil et al., 2005; Gramling and Vandervelde, 2006).

To assess the internal audit quality, firms can be evaluated from the source to supply by the internal auditors as in-house or outsource (Hermanson, 2005). At the same time, it can be considered from the elements of internal audit quality such as objectivity, competence, work performance, and overall quality (Gramling and Vandervelde, 2006). Furthermore, internal audit quality can be assessed by the chief of the internal audit department (audit committee or management), the orientation of an internal audit group (financial oversight or business oversight), staff (generally staff with certified internal auditors or general staff with a few certified internal auditors), department funding (high or adequate), and the compensation of internal auditors (where internal auditors share in performance-based budgets) (Kaplan and Schultz, 2007). The research of Mihret and Yismaw (2007) discusses internal audit quality as one element of internal audit effectiveness which internal audit effectiveness should support to attain the goals and a driving force to improve firms. Internal audit quality can be measured by staff expertise, scope of service, effective audit planning, fieldwork and controlling, and effective communication. Next, the external auditing standard is defined by the internal audit as competency and objectivity of the internal auditors and measures of internal audit quality by individual characteristics, namely professional experience, professional certification, training, the chief audit executive, financial work of internal audit functions, and internal audit size (Prawitt et al., 2009). Gramling and Hermanson (2009) discuss the three components of internal audit quality, that is, the first element as the inputs to the internal audit activities that include the right people focused on skill and personal qualities, and tools focused on appropriate technology and decision aids; the second element as the way internal auditors conduct internal audit activities focused on the right procedure and the techniques that lead to the effectiveness and efficiency of the process; and the third element as the reliability and usefulness of internal audit reports,



opinion, and recommendations. From the above reviewed literature, internal audit quality refers to the operational efficiency of internal audits by achieving the objective and goals of internal audits to add value and reform an organization's operations (Savcuk, 2007).

Internal control system effectiveness is able to reduce errors and risks of business operation and decrease the workload of the internal audit that leads to an effectiveness of the internal audit. Effectiveness of the internal audit has demonstrated the ability of the internal audit function that provides the benefit and recommendations to add firm value, reputation, and reliability (Mihret and Yismaw, 2007). Recently, there have been studies on the relationships between the quality of internal audit function and earning management. The result shows that internal audit quality is associated with reduced levels of earning management and shown as decreased operational risk, as well as increase the capacity of firms in achieving the set goals (Felix, Gramling, and Maletta, 2001; Prawitt et al., 2009). Moreover, the establishment and development of chief audit executives and internal audit functions give an opportunity to increase the value and profile of the organization (Hespenheide, Pundmann and Corcoran, 2007). Importantly, the results of internal audit quality are effectively operated following a plan or set goals. In other words, internal audits help an organization achieve its objectives and goals by bringing a systematic, disciplined approach to assess and raise the effectiveness of risk management, control, and corporate governance processes (Savcuk, 2007).

In addition to the need for a firm's internal control system effectiveness, stakeholders also expect a firm's internal audit quality to reduce errors and risks arising from business operation. Internal audit quality is demonstrated by the ability of the internal audit function to provide beneficial findings and recommendations to add firm value and obtain reputation and reliability for stakeholders (Mihret and Yismaw, 2007). Based on the literature reviewed above, internal audit quality has potential possibility to affect goal achievement and stakeholder credibility performance. Hence, the hypotheses are proposed as follows:

***Hypothesis 9a: The higher the internal audit quality is, the more likely that firms will gain greater decision making value.***



***Hypothesis 9b: The higher the internal audit quality is, the more likely that firms will gain greater organizational goal achievement.***

***Hypothesis 10: The higher the internal audit quality is, the more likely that firms will gain greater firm success.***

#### Decision Making Value

Decision means actions that people take to perform some tasks or solve some problems (Solomon and Trotman, 2003). Making a decision implies that there are alternative choices to be considered and to choose the highest probability of effectiveness or success that best fits with one's goals and values. Yeshmin and Hossan (2011) described decision making as a comprehensive process consisting of identifying the problem and criteria for decision making, allocating weights to those criteria, moving to developing, analyzing, and selecting an alternative that can solve the problem, and hence implementing alternatives and evaluating the decision's effectiveness. In this research, decision making value is defined as the attainment in the selection among business alternatives to have the value and uniqueness that enable firms to achieve their business objectives.

Generally, management accounting practice aims at assisting the making of decisions by management (Chong and Eggleton, 2003) to be applied to improve firm performance (Mia and Clarke, 1999). Furthermore, decision making effectiveness could enhance the potential of corporate competency (Chenhall, 2003). Prior research indicated that information provided from management accounting practice to decision maker's information requirements can ensure firm survival and firm sustainability through decision making efficiency related to business strategy decisions (Chenhall and Morris, 1995; Heidmann, Schaffer and Strahringer, 2008; Mia and Clarke, 1999; Naranjo-Gil and Hartmann, 2006). Hence, the hypotheses are posited as follows:

***Hypothesis 11: The higher the decision making value is, the more likely that firms will gain greater firm success.***



### Organization Goal Achievement

In this research, organizational goal achievement refers to the operational outcome or acquired results which enable the firm to achieve the objectives set by linking both the organization's missions, visions, and strategies and procedures with their goals (Ninlaphay, Ussahawanitchakit and Boonlua, 2012). Additionally, the focus on situation that reflects the intend to acquire, develop and show off competence in a particular context, lead to goal achievement (Nasiriyani et al., 2011). Similarly, Elliot and Harackiewicz (1996) suggested goal achievement framework consisting of three components: mastery goal, performance-approach goals and performance-avoidance goals (Nasiriyani et al., 2011). In addition, Bunnoon and Ussahawanitchakit (2012) claim goal achievement is a goal or objective is an intended result in a business system, plan and intends to achieve organizational. In the same time, managing goal achievement increases productivity and achievement drive.

Previous research indicates that organizational goals are the challenges leading to effective strategy implementation (Hunt, 2004). Furthermore, the link between the organization's mission, vision, strategy, and goals can help the firm to achieve organizational goals (Zaccaro and Klimoski, 2001). Beside, Gollwitzer (1993) suggests goal achievements are result from the development of implementation intentions, by eliminate classic problems associated with the control of goal-directed action. Meantime, benefits of organizational goals are guidelines for action, constraints in the organization, source of legitimacy, standard of performance and source of motivation (<http://ryerson.ca/~meinhard/841notes/goals.html>, 02 May, 2013).

***Hypothesis 12: The higher the organizational goal achievement is, the more likely that firms will gain greater firm success.***

### Firm Success

Many studies have devoted to the identification of success factors of new firms (Bleumink et al., 1985; Nerlinger, 1998; Storey, 1994; Wever, 1984; Woud, 1997). However, when the reports concerned are studied carefully, these finding becomes clear that the outcomes are much less straightforward as this might have been expected. Certainly, many explanatory factors have been identified, but different authors



frequently arrive at different results. As a consequence, drawing general conclusions from the findings of the various researchers is far from easy. Although most researchers use the same factors, the importance most researchers attach to them often differs markedly. The reason for this could be a difference in focus: some researchers deal with new firms, others concern themselves with new entrepreneurs. Some researchers concentrate on specific sectors, others include a much broader scale of activities and as a consequence quite different competitive contexts. Some studies originated from the US, others deal with the markedly different Dutch context. The question arises whether the results for a country such as the US or UK can be compared with those like the Netherlands, given the differences in the start-up context. Finally, the concept “success” is often operationalized in quite different ways.

Frequently used operationalizations of new firm success are profit, returns on investment or a substantial income generation for the entrepreneurs and their families. Other indicators used include value added, the growth of turnovers, or the number of employees. Behind most of these operationalization lurks a particular type of starter the Schumpeterian starter, someone who consciously strives for (innovative) growth and maximum profit. But one starter is not the same as another: the retired consultant will view profits in quite different terms.

A present trend, for instance, is that starters try to arrange some forms of self-employment. Starters such as these are not about to take on more personnel in order to achieve an even greater turnover. Starters do not want to grow: for them an acceptable income is enough. After all, the main motives to start a firm are the challenge and the wish to be independent (Schutjens and Wever, 1996). Another trend is to stay small using an interdependent network of specialized firms (Taylor, 1999). The intensive input-output relations and the use of specialized knowledge, services and personnel within the network enable firms to remain flexible and competitive, even when starters stay small. So the link between value added, the personnel growth or turnover on the one hand and firm success on the other is not as straightforward as firm success seems. The meaning of success in terms of profit differs considerably between entrepreneurs and firms. However based on literature review above, firm success in this research refers to the acceptance of customer as professional business, the increasing of new



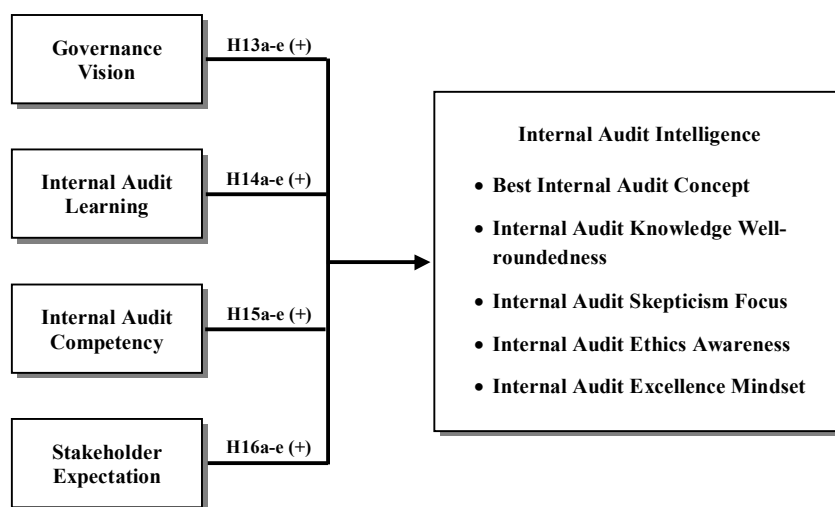


customer continuously, the continuous growth of operation in total (Schutjens and Wever, 1996).

### The Effects of the Antecedent Variables on Internal Audit Intelligence

This part emphasizes the effects of the antecedents of internal audit intelligence on each dimension of internal audit intelligence. Thus, the antecedent constructs of internal audit intelligence consist of four factors – governance vision, internal audit learning, internal audit competency, and stakeholder expectation. This research proposes that four antecedents have a positive effect on each dimension of internal audit intelligence as show in Figure 4.

Figure 4: The Effect of the Antecedent Variables on Internal Audit Intelligence



#### Governance Vision

Governance vision is a system of rules and norms for improving economic efficiency which ultimately relationships between a firm's management and group of stakeholders (Demidenko and McNutt, 2010). The main purposes of governance systems have two parts: to ensure the integrity of the management and to maximize the value created for the shareholders (Lepadatu, 2011). Many studies including Strenberg (1998) defines governance as a structure and process among the shareholders, top



management, and other stakeholders, which is relevant to the roles of process stewardship, strategic leadership, and the objectives of responsibility and to improve performance. Karagiorgos et al. (2010) identified that governance is the total operation and control of an organization, or an overall structure system of principles according to organized, managed and control of organizational operations. In addition, governance is defined by the Organization for Economic Cooperation and Development (OECD, 2004) as the system of Business Corporation that is directed and controlled at a senior level in order to achieve its objectives, performance, and financial management with accountability, integrity, and openness. Corporate vision is linked closely with the management of the unit and structures that cover the key concepts in the area of social responsibility and ethical business practices. Corporate vision includes various elements such as transparency and compliance with regulations. Therefore, this research defines governance vision as the organizational work policy on transparency, integrity, and fairness that leads to the acceptance and trust of stakeholders.

In prior research, Cheung and Qiang (2002) found that the internal audit function in the organization improved good corporate governance. On the contrary, Paape et al. (2003) investigated the relationship between internal audit and corporate governance and found that the internal audit work perceived different the role of corporate governance. In addition, George et al. (2011) identified that the relationship between governance and internal audit found that role of governance as critical to results efficiency internal audit. Furthermore, the findings showed that the internal audit has a positive significant relationship with good governance in which the internal audit function has important roles in governing the organization such as controlling, evaluating, and monitoring. Therefore, the governance vision can enhance and improve the internal audit practice which leads to the acceptance and reliability of the stakeholders. Thus, the hypotheses are proposed as follows:

***Hypothesis 13a: The higher the governance vision is, the more likely that firms will gain greater best internal audit concept.***

***Hypothesis 13b: The higher the governance vision is, the more likely that firms will gain greater internal audit knowledge well-roundedness.***



***Hypothesis 13c: The higher the governance vision is, the more likely that firms will gain greater internal audit skepticism focus.***

***Hypothesis 13d: The higher the governance vision is, the more likely that firms will gain greater internal audit ethics awareness.***

***Hypothesis 13e: The higher the governance vision is, the more likely that firms will gain greater internal audit excellence mindset.***

#### Internal Audit Learning

Learning and development for acquiring and maintaining the ability to detect the specialist can be included in the following: (a) advanced professional education as an institution or program of professional organizations, (b) training in the workplace and programming experience, (c) off-the-job training, and (d) continuing professional development program (CPD) and activities. Similarly, the International Standards for the Professional Practice of Internal Auditing (2010) indicated that internal auditors must enhance their knowledge, skills, and other competencies through continuing professional development. In addition, the IIA promotes continuing professional education as an important factor for the practice of internal auditing (Abdolmohammadi, 2009). Therefore, learning is important because it is the need for organizations to respond quickly to changes in the external environment and the organization (Coetzer and Perry, 2008; Ellinger et al., 1999). Consequently, effective learning brings about change in practice and improves performance.

From that already mentioned above the learning characteristics of the internal audit units in these groups of organizations are importantly different. According to the institutional theory, there are main external forces to influence individuals as well as organizations: consulting or professional bodies (normative isomorphism); the analysis of internal audit departments based on the assumption of an isomorphic behavior of organizations facing similar conditions (Arena and Azzone, 2007). Internal audit learning is associated with professionalization when members are dedicated to their own professional practice. According to the Institute of Internal Auditors, it is to support the internal audit activities for the global profession of internal auditing, such as providing



comprehensive professional educational and developmental opportunities, standards and other professional practice guidance, and certification programs (Arena et al., 2006).

Moreover, Juma (2006) focused on the development of knowledge in the profession of internal auditing in the context of professional practice, and to determine the role of the corporate auditors. This research shows that, in the past, internal auditors needed to examine all business risks and transactions and currently, the internal audit profession is a structure integrated of knowledge, which will make it have the full capabilities of the profession. In addition, Steyn and Plant (2009) concluded that knowledge about the needs of education and training for internal auditors can help them to understand the expected requirements of the experiences and specifications that they must face in the path to becoming a competent internal auditor.

From the aforementioned, education and training are the major components of internal audit learning that lead to the increased ability to practice accurate and timely internal audits. Additionally, many younger auditors may believe that skills acquired through education programs result in an increase of skills, knowledge, and abilities (Seol et al., 2011). Hence, in this research, internal audit learning refers to the development of skills, knowledge, and understanding of internal auditing by training to improve performance regularly to ensure practice is accurate and timely. Therefore, the hypotheses are proposed as follows:

***Hypothesis 14a: The higher the internal audit learning is, the more likely that firms will gain greater best internal audit concept.***

***Hypothesis 14b: The higher the internal audit learning is, the more likely that firms will gain greater internal audit knowledge well-roundedness.***

***Hypothesis 14c: The higher the internal audit learning is, the more likely that firms will gain greater internal audit skepticism focus.***

***Hypothesis 14d: The higher the internal audit learning is, the more likely that firms will gain greater internal audit ethics awareness.***



***Hypothesis 14e: The higher the internal audit learning is, the more likely that firms will gain greater internal audit excellence mindset.***

#### Internal Audit Competency

Competency is defined as a behavior or set of behaviors that demonstrate their learning in the workplace and can be used to define a strategy for the development of individual and team responsibilities and decision-making which is the general level of capability of the audit as a whole (Havelka and Merhout, 2013; Lee-Hsieh et al., 2003).

Competencies are the foundation required for the provision of quality service (Palsson et al., 2007). Harrington (2004) argues that internal auditors should have a comprehensive set of skills and abilities that will help them to respond to change and complexity in the operation. A set of skills related to the collection, storage, and processing of knowledge to applications in the future will be a competitive advantage to the organization (Hyland and Beckett, 2002). Therefore, skills are necessary for internal auditors to fulfill their responsibilities (Cooper et al., 1994). Similarly, the competency framework for internal audit emphasizes that the necessary skills are needed to use by all internal auditors to ensure a high level of efficiency and effectiveness (Seol et al., 2011). In addition, IIA (2010) indicated that the competencies include skill, problem identification, and solution, as well as the implementation of the rules, regulations, and professional standards. Hence, in this research, internal audit competency refers to the ability of the existing internal audit operations to improve the corresponding solution on the basis of knowledge, skills, and abilities with regulations and professional standards.

Furthermore, in the institutional theory, normative isomorphism is a relevant driver for explaining the adoption and development of internal audit units. The Institute of Internal Auditors (IIA) has been very active in promoting the diffusion of guidance and professional standards and fostering the adoption of internal audit best practices. Confirming the relevance of the normative pressures, Al-Twaijry et al. (2003) identified the establishment of IIA local affiliates in Saudi Arabia as one of the most important pressures for the establishment of internal audit departments.

However, prior research found one of the factors identified by the auditing standards in determining the strength of the internal audit function with internal auditor competence (Seol et al., 2011). Competencies are the level to use knowledge, skills, and



decisions related to the field of professional practice effectively (Lysaght and Altschuld, 2000). Based on the literature reviewed above, internal audit competency has the potential possibility to affect internal audit proficiency. Thus, the hypotheses are proposed as follows:

***Hypothesis 15a: The higher the internal audit competency is, the more likely that firms will gain greater best internal audit concept.***

***Hypothesis 15b: The higher the internal audit competency is, the more likely that firms will gain greater internal audit knowledge well-roundedness.***

***Hypothesis 15c: The higher the internal audit competency is, the more likely that firms will gain greater internal audit skepticism focus.***

***Hypothesis 15d: The higher the internal audit competency is, the more likely that firms will gain greater internal audit ethics awareness.***

***Hypothesis 15e: The higher the internal audit competency is, the more likely that firms will gain greater internal audit excellence mindset.***

#### Stakeholder Expectation

Freeman (1984) defined stakeholders as any group or individual who can affect or is affected by the achievement of an organization's objectives. There are two groups of stakeholders that influence organizations: internal and external stakeholders, such as shareholders, employees, competitors, suppliers, consumers, and government agencies. Similarly, Jurgens et al. (2010) defined the stakeholder as an individual or group who influences organizational objectives.

Stakeholder theory involves recognizing and identifying the relationship between a company's behavior and the impact on its stakeholders (Solomon and Lewis, 2002). The importance of the forces in the accounting profession increases the demands; for the timely disclosure of firm information (Lee and Hutchison, 2005).



Prior research Gelb and Strawser (2001) finds that management responds to the public force of stakeholder management by undertaking socially responsible activities that provide extensive information disclosure. Furthermore, stakeholder management increases transparent financial reporting (Mattingly et al., 2009). Similarly, Huang and Kung (2010) investigate stakeholder expectations associated with corporate environmental disclosure. The results show that the level of environmental disclosure is significantly affected by stakeholder groups' demands.

From the literature review, this research defines stakeholder expectation as society's expectation of the professional accountant who is concerned with integrity, accountability, and a moral responsibility to act in the public interest (Uachanachit and Ussahawanitchakit, 2012). Therefore, the stakeholder expectation can enhance and improve the internal audit practice. Thus, the hypotheses are proposed as follows:

***Hypothesis 16a: The higher the stakeholder expectation is, the more likely that firms will gain greater best internal audit concept.***

***Hypothesis 16b: The higher the stakeholder expectation is, the more likely that firms will gain greater internal audit knowledge well-roundedness.***

***Hypothesis 16c: The higher the stakeholder expectation is, the more likely that firms will gain greater internal audit skepticism focus.***

***Hypothesis 16d: The higher the stakeholder expectation is, the more likely that firms will gain greater internal audit ethics awareness.***

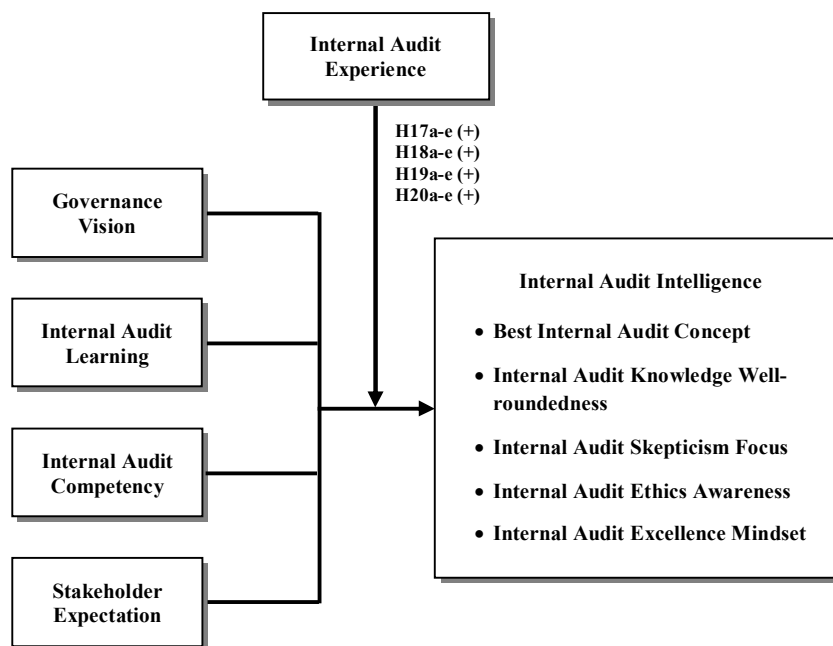
***Hypothesis 16e: The higher the stakeholder expectation is, the more likely that firms will gain greater internal audit excellence mindset.***



## The Moderating Effects of Internal Audit Experience on the Relationships among the Antecedents and Each Dimension of Internal Audit Intelligence

This part emphasizes the moderating effects of internal audit experience that focuses on the relationships among governance vision, internal audit learning, internal audit competency, stakeholder expectation, and each dimension of internal audit intelligence as shown in Figure 5 below.

Figure 5: The Moderating Effect of Internal Audit Experience on the Relationships among the Antecedents and Each Dimension of Internal Audit Intelligence



### Internal Audit Experience

Experience is knowledge acquired through observation and learning. However, each person will have experienced different; several people have experience together with knowledge of the events together. Experience is the practice caused skill and those impacts on performance especially the accounting practices are useful for the operation (Cook, 2002). Experience will be equipped with the skills and knowledge which associated with the accounting performance (Morris and Empson, 1998).





Previous research, for example, Prawitt, Smith and Wood (2009) argue that the experience will be equipped with the skills and knowledge which associated with the internal audit performance. In this research, internal audit experience is defined as the internal auditor individually skill and learning from past success and mistake internal audit task. Based on the literature reviewed above, internal audit experience has the potential possibility to affect the relationships among each dimension of internal audit intelligence, governance vision, internal audit learning, internal audit competency, and stakeholder expectation. Therefore, the hypotheses are posited as follows:

***Hypothesis 17a: Internal audit experience positively moderates the relationship between governance vision and best internal audit concept.***

***Hypothesis 17b: Internal audit experience positively moderates the relationship between governance vision and internal audit knowledge well-roundedness.***

***Hypothesis 17c: Internal audit experience positively moderates the relationship between governance vision and internal audit skepticism focus.***

***Hypothesis 17d: Internal audit experience positively moderates the relationship between governance vision and internal audit ethics awareness.***

***Hypothesis 17e: Internal audit experience positively moderates the relationship between governance vision and internal audit excellence mindset.***

***Hypothesis 18a: Internal audit experience positively moderates the relationship between internal audit learning and best internal audit concept.***

***Hypothesis 18b: Internal audit experience positively moderates the relationship between internal audit learning and internal audit knowledge well-roundedness.***



*Hypothesis 18c: Internal audit experience positively moderates the relationship between internal audit learning and internal audit skepticism focus.*

*Hypothesis 18d: Internal audit experience positively moderates the relationship between internal audit learning and internal audit ethics awareness.*

*Hypothesis 18e: Internal audit experience positively moderates the relationship between internal audit learning and internal audit excellence mindset.*

*Hypothesis 19a: Internal audit experience positively moderates the relationship between internal audit competency and best internal audit concept.*

*Hypothesis 19b: Internal audit experience positively moderates the relationship between internal audit competency and internal audit knowledge well-roundedness.*

*Hypothesis 19c: Internal audit experience positively moderates the relationship between internal audit competency and internal audit skepticism focus.*

*Hypothesis 19d: Internal audit experience positively moderates the relationship between internal audit competency and internal audit ethics awareness.*

*Hypothesis 19e: Internal audit experience positively moderates the relationship between internal audit competency and internal audit excellence mindset.*

*Hypothesis 20a: Internal audit experience positively moderates the relationship between stakeholder expectation and best internal audit concept.*

*Hypothesis 20b: Internal audit experience positively moderates the relationship between stakeholder expectation and internal audit knowledge well-roundedness.*



*Hypothesis 20c: Internal audit experience positively moderates the relationship between stakeholder expectation and internal audit skepticism focus.*

*Hypothesis 20d: Internal audit experience positively moderates the relationship between stakeholder expectation and internal audit ethics awareness.*

*Hypothesis 20e: Internal audit experience positively moderates the relationship between stakeholder expectation and internal audit excellence mindset.*

### **Summary**

This chapter proposes the conceptual model detail of the effects of internal audit intelligence on firm success. The theoretical foundation, relevant literature review, and hypotheses development are presented. Consequently, this research derives the conceptual framework from a knowledge-based view of the firm, the institutional theory, and the contingency theory. In addition, this research proposes a set of 20 testable hypotheses. Internal audit intelligence is the main concern of this research that is focused on the antecedents and consequences. This research also investigates the impacts of best internal audit practice, internal audit planning effectiveness, and internal audit review efficiency on firm success through internal audit quality, decision making value, and organizational goal achievement. Moreover, governance vision, internal audit learning, internal audit competency, and stakeholder expectation as the antecedents that have an impact on internal audit intelligence. Furthermore, this research investigates the moderating effects of internal audit experience on the relationships among four antecedents and each dimension of internal audit intelligence. The summary of all hypotheses relationships is shown in Table 3.

The next chapter will describe the research methods including the sample selection and data collection procedure, the variable measurements of each construct, methods, statistics and equations to test the hypotheses, and summary of the definitions and operational variables.



Table 3: Summary of Hypothesized Relationships

<b>Hypothesis</b>	<b>Description of Hypothesized Relationships</b>
H1a	The higher the best internal audit concept is, the more likely that firms will gain greater best internal audit practice.
H1b	The higher the best internal audit concept is, the more likely that firms will gain greater internal audit planning effectiveness.
H1c	The higher the best internal audit concept is, the more likely that firms will gain greater internal audit review efficiency.
H1d	The higher the best internal audit concept is, the more likely that firms will gain greater firm success.
H2a	The higher the internal audit knowledge well-roundedness is, the more likely that firms will gain greater best internal audit practice.
H2b	The higher the internal audit knowledge well-roundedness is, the more likely that firms will gain greater internal audit planning effectiveness.
H2c	The higher the internal audit knowledge well-roundedness is, the more likely that firms will gain greater internal audit review efficiency.
H2d	The higher the internal audit knowledge well-roundedness is, the more likely that firms will gain greater firm success.
H3a	The higher the internal audit skepticism focus is, the more likely that firms will gain greater best internal audit practice.
H3b	The higher the internal audit skepticism focus is, the more likely that firms will gain greater internal audit planning effectiveness.
H3c	The higher the internal audit skepticism focus is, the more likely that firms will gain greater internal audit review efficiency.
H3d	The higher the internal audit skepticism focus is, the more likely that firms will gain greater firm success.
H4a	The higher the internal audit ethics awareness is, the more likely that firms will gain greater best internal audit practice.
H4b	The higher the internal audit ethics awareness is, the more likely that firms will gain greater internal audit planning effectiveness.



Table 3: Summary of Hypothesized Relationships (Continued)

<b>Hypothesis</b>	<b>Description of Hypothesized Relationships</b>
H4c	The higher the internal audit ethics awareness is, the more likely that firms will gain greater internal audit review efficiency.
H4d	The higher the internal audit ethics awareness is, the more likely that firms will gain greater firm success.
H5a	The higher the internal audit excellence mindset is, the more likely that firms will gain greater best internal audit practice.
H5b	The higher the internal audit excellence mindset is, the more likely that firms will gain greater internal audit planning effectiveness.
H5c	The higher the internal audit excellence mindset is, the more likely that firms will gain greater internal audit review efficiency.
H5d	The higher the internal audit excellence mindset is, the more likely that firms will gain greater firm success.
H6	The higher the best internal audit practice is, the more likely that firms will gain greater internal audit quality.
H7	The higher the internal audit planning effectiveness is, the more likely that firms will gain greater internal audit quality.
H8	The higher the internal audit review efficiency is, the more likely that firms will gain greater internal audit quality.
H9a	The higher the internal audit quality is, the more likely that firms will gain greater decision making value.
H9b	The higher the internal audit quality is, the more likely that firms will gain greater organizational goal achievement.
H10	The higher the internal audit quality is, the more likely that firms will gain greater firm success.
H11	The higher the decision making value is, the more likely that firms will gain greater firm success.
H12	The higher the organizational goal achievement is, the more likely that firms will gain greater firm success.



Table 3: Summary of Hypothesized Relationships (Continued)

<b>Hypothesis</b>	<b>Description of Hypothesized Relationships</b>
H13a	The higher the governance vision is, the more likely that firms will gain greater best internal audit concept.
H13b	The higher the governance vision is, the more likely that firms will gain greater internal audit knowledge well-roundedness.
H13c	The higher the governance vision is, the more likely that firms will gain greater internal audit skepticism focus.
H13d	The higher the governance vision is, the more likely that firms will gain greater internal audit ethics awareness.
H13e	The higher the governance vision is, the more likely that firms will gain greater internal audit excellence mindset.
H14a	The higher the internal audit learning is, the more likely that firms will gain greater best internal audit concept.
H14b	The higher the internal audit learning is, the more likely that firms will gain greater internal audit knowledge well-roundedness.
H14c	The higher the internal audit learning is, the more likely that firms will gain greater internal audit skepticism focus.
H14d	The higher the internal audit learning is, the more likely that firms will gain greater internal audit ethics awareness.
H14e	The higher the internal audit learning is, the more likely that firms will gain greater internal audit excellence mindset.
H15a	The higher the internal audit competency is, the more likely that firms will gain greater best internal audit concept.
H15b	The higher the internal audit competency is, the more likely that firms will gain greater internal audit knowledge well-roundedness.
H15c	The higher the internal audit competency is, the more likely that firms will gain greater internal audit skepticism focus.
H15d	The higher the internal audit competency is, the more likely that firms will gain greater internal audit ethics awareness.



Table 3: Summary of Hypothesized Relationships (Continued)

<b>Hypothesis</b>	<b>Description of Hypothesized Relationships</b>
H15e	The higher the internal audit competency is, the more likely that firms will gain greater internal audit excellence mindset.
H16a	The higher the stakeholder expectation is, the more likely that firms will gain greater best internal audit concept.
H16b	The higher the stakeholder expectation is, the more likely that firms will gain greater internal audit knowledge well-roundedness.
H16c	The higher the stakeholder expectation is, the more likely that firms will gain greater internal audit skepticism focus.
H16d	The higher the stakeholder expectation is, the more likely that firms will gain greater internal audit ethics awareness.
H16e	The higher the stakeholder expectation is, the more likely that firms will gain greater internal audit excellence mindset.
H17a	Internal audit experience positively moderates the relationship between governance vision and best internal audit concept.
H17b	Internal audit experience positively moderates the relationship between governance vision and internal audit knowledge well-roundedness.
H17c	Internal audit experience positively moderates the relationship between governance vision and internal audit skepticism focus.
H17d	Internal audit experience positively moderates the relationship between governance vision and internal audit ethics awareness.
H17e	Internal audit experience positively moderates the relationship between governance vision and internal audit excellence mindset.
H18a	Internal audit experience positively moderates the relationship between internal audit learning and best internal audit concept.
H18b	Internal audit experience positively moderates the relationship between internal audit learning and internal audit knowledge well-roundedness.
H18c	Internal audit experience positively moderates the relationship between internal audit learning and internal audit skepticism focus.



Table 3: Summary of Hypothesized Relationships (Continued)

<b>Hypothesis</b>	<b>Description of Hypothesized Relationships</b>
H18d	Internal audit experience positively moderates the relationship between internal audit learning and internal audit ethics awareness.
H18e	Internal audit experience positively moderates the relationship between internal audit learning and internal audit excellence mindset.
H19a	Internal audit experience positively moderates the relationship between internal audit competency and best internal audit concept.
H19b	Internal audit experience positively moderates the relationship between internal audit competency and internal audit knowledge well-roundedness.
H19c	Internal audit experience positively moderates the relationship between internal audit competency and internal audit skepticism focus.
H19d	Internal audit experience positively moderates the relationship between internal audit competency and internal audit ethics awareness.
H19e	Internal audit experience positively moderates the relationship between internal audit competency and internal audit excellence mindset.
H20a	Internal audit experience positively moderates the relationship between stakeholder expectation and best internal audit concept.
H20b	Internal audit experience positively moderates the relationship between stakeholder expectation and internal audit knowledge well-roundedness.
H20c	Internal audit experience positively moderates the relationship between stakeholder expectation and internal audit skepticism focus.
H20d	Internal audit experience positively moderates the relationship between stakeholder expectation and internal audit ethics awareness.
H20e	Internal audit experience positively moderates the relationship between stakeholder expectation and internal audit excellence mindset.





## CHAPTER III

### RESEARCH METHODS

The previous chapter presented a review of previous studies and the relevant literature detailed in internal audit intelligence and other constructs in the conceptual model, the theoretical foundations, the definition of all constructs, and the hypotheses development. To understand the research methods, this chapter details them in four parts as follows. Firstly, the sample selection and data collection procedures, including the population and sample, the data collection, and the test of non-response bias are detailed. Secondly, the variable measurements are developed. Thirdly, the instrumental verifications including the tests of validity and reliability and the statistical analyses, including the regression equations are presented. Finally, the definitions and operational variables of the constructs is included.

#### **Sample Selection and Data Collection Procedure**

##### Population and Sample

The population and sample of this research is Thai-listed firms in the Stock Exchange of Thailand (SET), which have an internal audit department within the firm following the requirements of the Securities and Exchange Commission (SEC). The Securities and Exchange Commission encourage the listed company has the good corporate governance system that will make the listed company has the quality management system, the transparent information disclosure, and the high standard of performance which will effect on the confidence in capital market. Good corporate governance is an essential element of listed companies. It means that the company has efficient, transparent, and able to be audited management systems that create trust and confidence amongst its shareholders, investors, other stakeholders, and all relevant parties. Good corporate governance is a mean to add a firm's value and to sustain its growth. The Stock Exchange of Thailand (SET) has continuously supported listed companies to establish their good governance systems. The SET expects all listed companies' boards and management teams to develop their systems to be comparable



with international standards. This will be of benefit to the growth of listed companies, the growth of Thai capital market, and the sustainable development of the economy. Therefore, internal audit task of Thai-listed firms are expected to perform complicate scope tasks which require heighten proficiency.

The sample of this research is chosen from the Stock Exchange of Thailand (SET) on its website ([www.set.or.th](http://www.set.or.th)). Based on this database, there are 602 Thai-listed firms. The data was recorded in 2013 (accessed March 15, 2013). The companies are trading in Market for Alternative Investment (MAI) totals 84 firms, which operate in different regulations and legal environments. As a result, these MAI firms are not included in this study. Accordingly, an appropriate sample size is 226 firms under the 95% confidentiality (Krejcie and Morgan, 1970). Based on prior business research, a 20% response rate for a mail survey, without an appropriate follow-up procedure, is deemed sufficient (Aaker et al., 2001). Therefore, 1,130 firms are an appropriate sample for a distributed mail survey. However, in this research, with a population of 518 firms, so must the population and sample was the same group. Therefore, 518 Thai-listed firms are selected as the sample for data collection.

The calculation of an appropriate sample size by the formula from Yamane (1973) is as follows:

$$n = \frac{N}{1 + Ne^2}$$

$$n = \frac{518}{1 + 518(0.05)^2}$$

$$n = 226$$

- n** = sample size  
**N** = population size  
**e<sup>2</sup>** = the degree of accuracy expressed as a proportion (0.05)



Based on the formula for determining a sample size with 95% confidentiality and a population of 518 internal audit director, a sample size of 226 would be needs to represent the population, However, a 20% response rate from mail surveys, without an appropriate follow-up procedure is sufficient (AAKER, Kumar and Day, 2001). To determine the sample size for the initial mail survey, the following shows the calculation procedure.

$$\begin{aligned} \text{The required respondents as a 20\% response rate} &= 226 \\ \text{Thus, the sample size as a 100\%} &= [226 \times 100] / 20 = 1,130 \end{aligned}$$

In this research, 226 required respondents are considered as a 20% response rate, thus the sample size for the mail survey should be equal to 1,130. Nevertheless, the number of the internal audit population was only 518. Thus, it was necessary to determine the 518 population as the sample size for the mail survey in this research.

The key informant is the chief internal auditor, the internal audit director, or the internal audit manager of each firm. They are chosen because this research investigates the relationships between internal audit intelligence and firm success, in which the internal auditor department defines the scope of the audit work that is practical; thus, they have a knowledge and experience to give actual information and have a true understanding of its practices, and can also give more relevant information or comments (Abdolmohammadi and Boss, 2010; Fowler, 2002).

### Data Collection

A questionnaire is used for data collection because the questionnaire is an appropriate instrument and widely-used method for large-scale data collection in behavioral accounting of which a representative sample can be collected from the chosen population in a variety of locations at a low cost (Kwok and Sharp, 1998). The reasons to use this tool are because a mail survey reaches a greater number of firms at a lower cost and the elimination or reduction of bias (Dillman, 1991; Snyder and Elliard, 2012). The final questionnaires were emailed out in April, 2013 at Thai-listed firms accompanied by a cover letter outlining the rationale and aims of our research.



Table 4: Details of Questionnaire Mailing

Details	Numbers
Number of questionnaire mailing	518
Number of undelivered questionnaires	3
Number of successful questionnaire mailing	515
Received questionnaires	126
Usable questionnaires	126
Response rate $(126/515) \times 100$	24.47%

The questionnaire is mailed directly to the internal audit directors/internal audit managers of each Thai-listed firm by post. The plan was to collect the data within eight weeks. In the first stage, the questionnaire was answered and returned to the researcher in the first four weeks. After four weeks, in order to increase the response rate, a follow up postcard was sent to firms which had not yet replied reminding them to complete the questionnaire and asking them to cooperate in answering the questionnaire. Then, the completed questionnaires are sent back to the researcher by the prepared return envelopes for ensuring confidentiality. Each package of the instrument consists of a cover letter containing an explanation of the research, a questionnaire, and a postage-prepaid return envelope.

In this research, a questionnaire consists of seven parts. The choice of questionnaire uses closed-ended questions, because it is easier and quicker for respondents to answer and easier to code and statistically analyze (Neuman, 2006). Part one asks for personal information such as gender, age, marital status, educational level, working experience, average monthly income, and current working position. Part two generates the information and details of Thai-listed firms such as industrial category, period of time registered in the SET, period of time in business, authorized capital, total assets, debt to equity ratio, and the operational achievement award. Part three is related to evaluating each construct in the conceptual model. All questions deal with the measurement of the internal audit intelligence that consist of best internal audit concept, internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset. Part four



details the consequences of internal audit intelligence which include best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, internal audit quality, decision making value, organizational goal achievement, and firm success. Part five details the antecedents of internal audit intelligence consisting of governance vision, internal audit learning, internal audit competency, and stakeholder expectation. Part six details the moderating variable of internal audit intelligence – internal audit experience. Finally, an open-ended question for the internal auditor manager’s or director’s suggestions and opinions are included in Part seven. This questionnaire is attached in the Appendix F and G(questionnaire in Thai and English version).

#### Test of Non-Response Bias

The test of non-response bias is a way to protect possible response bias problems between respondents and non-respondents. Non-response bias was tested by comparing the pattern of answers received within one and last weeks of mail return (Armstrong and Overton, 1977). The respondents were divided in two groups: early and late respondents (Oppenheim, 1996). Thus, to protect possible response bias problems between respondents and non-respondents, a non-response bias test must be done to confirm that non-respondents are not different from respondents. Non-response bias was uses a t-test comparison of the demographics between early and late respondents was conducted. Then, responses from the first group mailing are used to compare with those received from the second group mailing on the basis of demographic information of the firm, such as the type of firm ,period of time, time of operating ,capital of the firm, total assets, achievement award and duration of service. If there is no statistically significant difference between early and late respondents, it demonstrates that the non-response bias does not pose a major problem (Armstrong and Overton, 1977).

#### **Measurements**

In this research, the measurement development procedure involves the multiple items development for measuring each construct in the conceptual model. All constructs are the abstractions that cannot be directly measured or observed, and should be measured by multiple items (Churchill, 1979). Roberts (1999) suggests that the best



practice in the development of instruments and questionnaires dictates that an extensive review of related instruments is undertaken first, and then instruments need to be purposely-built or adapted. Similarly, a new instrument is vulnerable and needs extensive testing, and there are no corroborative studies using the same instrument (Smith, 2003). Therefore, for empirical hypotheses testing purposes, the theoretical constructs in the model are operationalized into observable constructs supported by the literature. Also all of the measures rely on the Likert scale to capture the degree of all variables. The degree of strongly disagree to strongly agree is represented as 1 to 5, respectively, because rating scales with five to nine categories seem to work in most research situations. Moreover, according to the study of Morin (2008), a five Likert-scale was used in a questionnaire to study the value for money audit in a governmental organization in Canada. Also, a five-point Likert scale is appropriate for this research. All constructs are developed for measuring from the definition of each construct. This table provides the details of the definition of each construct, the operational variables, the scale source, and the sample questions and items. Therefore, the variable measurements of the dependent variable, independent variables, and control variables of this research are described as follows.

#### Dependent Variable

##### *Firm Success*

Firm success is measured using four items relating to the operational outcome by linking it to the mission, vision, and strategies including the credibility of the stakeholder. This construct is developed as a new scale based on its definition. (Bleumink et al., 1985; Nerlinger, 1998; Storey, 1994; Wever, 1984; Woud, 1997)

#### Independent Variables

The independent variable of this research is internal audit intelligence, and it is a core construct of this research. Internal audit intelligence refers to the ability to use knowledge, skills, and abilities to rely on the experience in the internal audit processes to achieve efficiency. This construct is developed as a new scale and measured by using five dimensions, including of best internal audit concept, internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset. The measure of each dimension depends on its definition which is also detailed below.



### *Best Internal Audit Concept*

Best internal audit concept refers to changes in the environment, the companies are trying to create an internal audit system of management to achieve a sustainable competitive advantage. Internal audit practice is an audit procedure performed by a firm's own personnel to check for completeness and accuracy. Internal auditing is executed in various environments and within organizations which offer in objectives, laws, and customers. (Ninlaphay, Ussahawanitchakit and Boonlua, 2012).

### *Internal Audit Knowledge Well-roundedness*

Internal audit knowledge well-roundedness refers to the ability to manage the operations of the organization relating to corporate governance, designing, and redesigning the business operation associated with converting the resources into products and services as efficiently as possible to maximize the profits of an organization. (Heizer and Render, 2008). The administration of the business practices to create the highest level of efficiency possible within an organization. Internal audit knowledge well-roundedness is concerned with converting materials and labor into goods and services to maximize the profits of the organization.

### *Internal Audit Skepticism Focus*

Internal audit skepticism focus refers to any questioning attitude or doubt regarding knowledge, facts, or opinions. From the viewpoint of auditing professions, skepticism can be considered in two positions, a neutral view and a presumptive doubt view. From the neutral view, auditors should perform audit tasks with effortful and without bias. Hence, under the neutral view an auditor must perform with an unbiased judgment and be alert to fraud or error indicators. In contrast, the presumptive doubt view requires auditors to work hard on evidence gathering and pay effortful attention to evidence which indicate any misstatements. (Mccoy et al., 2011).

### *Internal Audit Ethics Awareness*

Internal audit ethics awareness refers to the objective of the review is to ensure that the audits are in accordance with generally-accepted auditing standards and company policies and procedures which the effect of review as the feedback and effects on preparer behavior after the reviews have not received much attention. (Miller, Fedor, and Ramsay, 2006; Payne, Ramsay, and Bamber. 2010). The review process is shifting from a sequential to more real-time process. An important function of the review



process is to ensure the quality and work under pressure of time which may result in the reduced performance of the auditor.

#### *Internal Audit Excellence Mindset*

Internal audit excellence mindset refers to the business environment has changed. To survive with more challenging competition, firms need to adapt to harmonize to a competitive and changing environment and focus on survival in the long term. In the rapid changes, flexibility has become more important, because it is an ability of a firm to adjust and try to find a new opportunity to timely respond to environment. (Wheelen and Hunger, 2008).

#### Mediating Variables

##### *Best Internal Audit Practice*

Best internal audit practice is defined as the techniques, methods, processes, and procedures combined into practice and improve business results for the organization. In addition, the successful best practice of the internal audit includes project management techniques to ensure that plans are achieved and alter management techniques to facilitate change. Hence, best practice enhances change management techniques and processes successfully including increase the basic internal audit strategies. This research defines the best internal audit practice as the ability to apply knowledge and skills of techniques, processes, methods, and procedures to keenly assess the likelihood of risky events and to identify ways of reducing the likelihood of occurring events to achieve the audit goals effectively. (Suevoshi et al., 2009).

##### *Internal Audit Planning Effectiveness*

Internal audit planning effectiveness refers to the activities most affected by recent or expected changes. (Popescu and Omran, 2011). As a result, the planning should be flexible in order to make the change during the year as a result of strategic change management expectations of achieving firm objectives. Planning is valuable when the information outcome is reliable and decision making relevant. Consistent with internal audit effectiveness and efficiency depends on the planning strategy process. Moreover, the audit planning process should include the assessment of audit risk. Especially, in the implementation of the internal audit of a firm with high growth and the expansion of existing businesses, an organization needs internal audit planning, as it helps an organization achieve its goals American Institute of Certified Public





Accountants. The ability to combine knowledge, skill, and experience to internal audit function and translate them into an action plan is more likely to improve the management of risk, added value, and improve the operation of businesses. Consequently, audit planning has become the main activity which auditors have implemented in order to achieve audit report efficiency, gain audit performance, and enhance audit success.

#### *Internal Audit Review Efficiency*

Internal audit review efficiency is defined as capability to continuously brainstorm, appraise, and reconsider the internal audit works and conclusions to ensure that the internal audit task is complied with professional standards, assurance and auditing guideline, and firm policies and procedures. (Carpenter, 2007; Gissel, 2010; Harding and Trotman, 2011; Hurtt, Eining and Plumlee, 2011; Payne, Ramsay and Bamber, 2010). It also includes emphasis on appraise and brainstorm with a questioning mind and openness until sufficient evidences are collected. Based on considerable literature, reviewers or partners can communicate and share information among audit members which can affect audit tasks. The shared information includes internal control weakness and the likelihood of management fraud and risk assessment. However, as discussed earlier, implementing only an audit review may not be sufficient to achieve high audit quality. Internal audit functions should implement the concept of professional skepticism into their review process.

#### *Internal Audit Quality*

Internal audit quality is defined as the internal audit is the activities of assurance and consultation, independence and non-bias to enhance the value of firms and achieve set goals. Moreover, it also is the evaluation tool to improve the effectiveness of risk management, control, and governance processes. Internal audit function is likely to affect the management and evaluation of an external auditor of the effectiveness of internal control. The lower internal audit function quality can be a material weakness in internal control, of which the existence of internal control effectiveness is to verify that firms have an incentive to obtain quality internal audits.

At the same time, it can be considered from the elements of internal audit quality such as objectivity, competence, work performance, and overall quality. (Mihret and Yismaw, 2007).



### *Decision Making Value*

Decision making value is defined as the attainment in the selection among business alternatives to have the value and uniqueness that enable firms to achieve their business objectives. (Solomon and Trotman, 2003) Decision means actions that people take to perform some tasks or solve some problems. Making a decision implies that there are alternative choices to be considered and to choose the highest probability of effectiveness or success that best fits with one's goals and values. Decision making as a comprehensive process consisting of identifying the problem and criteria for decision making, allocating weights to those criteria, moving to developing, analyzing, and selecting an alternative that can solve the problem, and hence implementing alternatives and evaluating the decision's effectiveness.

### *Organizational Goal Achievement*

Organizational goal achievement is defined as the operational outcome or acquired results which enable the firm to achieve the objectives set by linking both the organization's missions, visions, and strategies and procedures with their goals. (Ninlaphay, Ussahawanitchakit and Boonlua, 2012). Additionally, the focus on situation that reflects the intend to acquire, develop and show off competence in a particular context, lead to goal achievement. Similarly, suggested goal achievement framework consisting of three components: mastery goal, performance-approach goals, and performance-avoidance goals. In addition, claim goal achievement is a goal or objective is an intended result in a business system, plan and intends to achieve organizational goal.

### Antecedent Variables

For this research, governance vision, internal audit learning, internal audit competency, and stakeholder expectation are the antecedent variables of internal audit intelligence. The measure of each variable is in its definition to be discussed as follows.

### *Governance Vision*

Governance vision refers to the organization's work policy on transparency, integrity, and fairness that leads to the acceptance and trust of stakeholders. This research develops four items as a new scale adapted with some modifications from prior research. It is measured by the perceptions of the compliance with regulations, and the awareness of their duties and responsibility to society. (Ninlaphay, Ussahawanitchakit and Boonlua, 2012).



### *Internal Audit Learning*

Internal audit learning is defined as the development of skills, knowledge, and understanding of internal auditing by training to improve performance regularly to ensure practice is accurate and timely. (Arena et al., 2006). This research is developed as a new scale with four items, including education and training in internal audit, accounting and auditing programs, and communication or interaction with the external environments.

### *Internal Audit Competency*

Internal audit competency refers to the ability of the existing internal audit operations to improve the corresponding solution on the basis of knowledge, skills, and abilities with regulations and professional standards. It contains four-item scale developed as a new scale and adapted with some modifications from prior research. It is measured by the firm's perception on the ability to work under the existence of knowledge, skills, and ability of each internal auditor. (Havelka and Merhout, 2013; Lee-Hsieh et al., 2003).

### *Stakeholder Expectation*

Stakeholder expectation is defined as society's expectation of the professional accountant who is concerned with integrity, accountability, and a moral responsibility to act in the public interest. Stakeholder means any group or individual who can affect or is affected by the achievement of an organization's objectives. There are two groups of stakeholders that influence organizations: internal and external stakeholders, such as shareholders, employees, competitors, suppliers, consumers, and government agencies. Freeman (1984).

### Moderating Variable

#### *Internal Audit Experience*

Internal audit experience refers to the process of information sharing within an organization by providing information to the colleague, so that understand and participation in the achievement of organizational goals. (Morris and Empson, 1998). It contains a four-item scale developed as a new scale adapted with some modification from prior research. It is measured by the firm's perception on the communication with colleagues to create shared understanding.



### Control Variables

Two control variables are included to account for firm characteristics that may influence the hypothesized relationships which are firm size and firm age. The control variable will help reduce spurious relationships (Shianet al., 2010). The related literature is detailed as follows:

*Firm Size.* In previous research, the impact of firm size is also an important factor that affects internal audit function (Carey et al., 2000; Chow, 1982; Goodwin-Stewart and Kent, 2006; Hajiha and Akhlaghi, 2011; Hajiha and Rafiee, 2011; Saren, 2007; Wallace and Kreutzfeldt, 1991). Because of the size of an organization, it determines the extent and frequency of internal audit activities (Carey et al, 2006). Especially, a large and complex organization is difficult to manage its systems and control (Fisher, 1995). In this research, firm size is chosen as a control variable which is defined as the total assets of the firm invested. It is a dummy variable in which 0 is a firm with total assets lower than 10,000,000,000 Baht, and 1 is a firm that has total assets equal to or more than 10,000,000,000 Baht.

*Firm Age.* In this research, firm age has an impact on internal audit activities (Doyle, Ge, and McVay, 2007). Firm age refers to the period of time the firm has been in business (Biddle, Hilary, and Verdi, 2009). The empirical evidence suggests that there is a clear relationship between firm age and growth (Capelleras and Rabetino, 2008). The questions in the questionnaire for the requirement of the number of operational years is divided into dummy variables in which 0 means that the firm has been in business less or equal to 15 years, and 1 means the firm has been in business more than 15 years.

### **Methods**

Research methods are composed of two phases. The first one is instrumental verification that concerns the validity and reliability of the questionnaire, and the second is checking the statistic assumption and test of hypotheses.

In the first phase, the questionnaire is developed based on the concept of internal audit intelligence. All constructs in the conceptual model are developed by adopting the relevant literature. Since all constructs in this conceptual model are



developed as new scales. Consequently, a pre-test method is appropriately conducted to assure validity and reliability of the questionnaire. The rationale of the pre-test is to check clearly and accurately for the understanding of a questionnaire before using the real data collection. The pre-test was conducted in the month of December, 2013. The first thirty firms which are early respondents are chosen for pre-test. The pre-test of 30 representative informants is enough to identify problems with a questionnaire that conformed to Zhou (2006). Accordingly, thirty firms are included in the final data analysis. The respondents were asked to complete the questionnaire and provide comments regarding time taken, clarity of the questions, as well as length of the questionnaire and suitability of the variables.

In the second phase, multiple regression analysis is used to test hypotheses. Before hypotheses testing, all of raw data are checked, encoded, and recorded in a data file. Then, the basis assumption of regression analysis is tested. This process involves checking the outlier problem, normality, heteroscedasticity, autocorrelation, and linearity.

#### Validity and Reliability

*Validity.* This research tests the validity of the instrument to confirm that a measure or set of measures accurately represents the concept of study. Two types of validity were tested in this research, which are content validity and construct validity. Validity refers to the degree to which the instruments ensure that a measure or set of measures accurately represents what it is supposed to measure. Similarly, Kwok and Sharp (1998) suggest that validity is the accuracy of a measurement concerned with whether the researchers are measuring what they want to measure. This research examines the content validity and constructs validity of questionnaire.

*Content validity.* Content validity is based on the extent to which a measurement reflects the specific intended content domain of the theoretical construct (Kwok and Sharp, 1998). Content validity is the rational judgments by academics that are evaluating the adequacy of the measurement. The content validity relies on the subjective interpretation of the appropriateness of the items to the construct under study, the former from the point of the researcher gleaned knowledge from the literature, and the latter from professional academics. This research requested two academic experts who have experience in this area to review the instrument in order to ensure that the



questionnaires used contain appropriate wordings and all constructs are sufficient to cover the contents of the variables. Based on their feedback, some questions were deleted or adjusted accordingly to attain the best measurement.

*Construct validity.* Construct validity is an agreement between a theoretical concept and a specific measuring instrument or procedure. It uses exploratory factor analysis (EFA) to examine the construct validity of the instrument by investigating the underlying relationships of a large number of items and determining whether they can be reduced to a smaller set of factors. In this case, construct validity consists of discriminant validity and convergent validity. Discriminant validity is the extent to which a construct is truly distinct from other constructs. Thus, this validity also means that individually measured items should represent only one construct. The presence of cross-loadings indicates a discriminant validity problem. Convergent validity demonstrates the items that are indicators of a specific construct converge or share a high proportion of variance in common. As a rule-of-thumb, the acceptable minimum cut-off score is 0.40 (Nunnally and Berstein, 1994).

Table 5: Results of Validity and Reliability Testing

<b>Variables</b>	<b>Factor Loadings</b>	<b>Cronbach's Alpha</b>
Firm success	0.845-0.950	0.914
Best internal audit concept	0.795-0.844	0.840
Internal audit knowledge well-roundedness	0.787-0.860	0.829
Internal audit skepticism focus	0.778-0.904	0.862
Internal audit ethics awareness	0.773-0.900	0.867
Internal audit excellence mindset	0.847-0.897	0.866
Best internal audit practice	0.788-0.865	0.843
Internal audit planning effectiveness	0.806-0.889	0.878
Internal audit review efficiency	0.802-0.928	0.894



Table 5: Results of Validity and Reliability Testing (continued)

<b>Variables</b>	<b>Factor Loadings</b>	<b>Cronbach's Alpha</b>
Internal audit quality	0.838-0.888	0.890
Decision making value	0.760-0.893	0.866
Organizational goal achievement	0.824-0.883	0.880
Governance vision	0.880-0.946	0.835
Internal audit learning	0.851-0.934	0.924
Internal audit competency	0.779-0.858	0.840
Stakeholder expectation	0.902-0.928	0.934
Internal audit experience	0.846-0.925	0.915

*Reliability.* Reliability is the degree to which measures are free from errors and thus yield consistent results (Kwok and Sharp, 1998). This research assesses the reliability of each construct to assert the degree of consistency between multiple measurements of a variable. The item-to-total correlation and the inter-item correlation are used to test the internal consistency. The rationale for internal consistency is that the individual items should all be measuring the same construct and thus be highly intercorrelated. Accordingly, the item-to-total correlation should exceed 0.50 and the inter-item correlation should exceed 0.30 (Hair et al., 2006). This research tests the reliability of each construct by using Cronbach's alpha because it is the most popular measure of internal consistency reliability. Cronbach's alpha is the most widely used measure of internal consistency reliability for two reasons: it is provided by many popular statistical software programs, and it is well understood by most researchers (Kwok and Sharp, 1998). In this case, this research uses Cronbach's alpha to measure the internal consistency which should be greater than 0.70 (Hair et al., 2010).

In this research, testing validity and reliability of a questionnaire as qualities of a good instrument were conducted from the pre-test of thirty internal audit directors or internal audit managers that were tested by factor analysis and Cronbach's alpha, respectively, to improve the questionnaire so as to ensure validity and reliability.



## Statistical Techniques

Before hypotheses testing, all of raw data are checked, encoded, and recorded in a data file. Then, the basis assumption of regression analysis is tested. This process involves checking the normality, heteroscedasticity, autocorrelation, and linearity. Moreover, outlier problem is concerned.

This research employed both descriptive and inferential statistical techniques including variance inflation factors (VIFs) were applied to test for multicollinearity among the independent variables, correlation analysis determined to test the primary correlations between two variables, and the ordinary least squared method (OLS) was operated to statistically estimate the coefficient of hypotheses testing.

### *Variance inflation factors (VIFs)*

VIF is used to identify the multicollinearity problem. A variance inflation factor (VIF) and a tolerance value as indicators, indicate a high degree of multicollinearity among the independent variables. As a rule of thumb of the tolerance value should be greater than 0.10, and if the VIF is less than 10, multicollinearity is not a concern (Hair et al., 2006).

### *Correlation analysis*

Pearson correlation analysis was used to examine the relationship between the independent variable on the independent variable, and the independent variable on the dependent variable. This problem of correlation occurs when any single independent variable is highly correlated with other independent variables. In other words, a variable can be explained by the other variables in the analysis of multicollinearity, which shows when the intercorrelation between explanatory variables exceeds 0.80 (Berry and Feldmann, 1985). However, factor analysis is used to group highly correlated variables together, and the factor score of all variables is prepared to avoid the multicollinearity problem. Then, they are evaluated by regression analysis.

### *Regression analysis*

The Ordinary Least Squares (OLS) regression analysis is used to test all hypotheses following the conceptual model, because both dependent and independent variables are categorical and interval data. The OLS is an appropriate method for





examining the hypothesized relationships to test the factors affecting firm success of Thai-listed firms. Before hypotheses testing, all the raw data is checked, encoded, and recorded in a data file. Therefore, the basic assumption of regression analysis is tested. This process involves checking the normality, heteroscedasticity, autocorrelation, multicollinearity, and linearity. Consequently, this research analyzes the data which is calculated in the form of factor scores for which all variables are prepared to avoid the multicollinearity problems, and are evaluated by the Ordinary Least Squares (OLS) regression analysis. Therefore, all hypotheses in this research are transformed to nineteen equations. Each equation consists of the main variables related to the hypotheses testing, which is described in the previous chapter. Furthermore, two control variables, firm size and firm age, are included in all of those equations for hypotheses testing. The detail of each equation is presented as follows.

The investigation of the relationships among five dimensions of internal audit intelligence and its consequences consist of best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, and firm success are presented in Equation 1 – 4 as shown:

$$\text{Equation 1: } BIP = \alpha_{01} + \beta_1 BIC + \beta_2 IKW + \beta_3 ISF + \beta_4 IEA + \beta_5 IEM + \beta_6 FS + \beta_7 FA + \varepsilon_{01}$$

$$\text{Equation 2: } IPE = \alpha_{02} + \beta_8 BIC + \beta_9 IKW + \beta_{10} ISF + \beta_{11} IEA + \beta_{12} IEM + \beta_{13} FS + \beta_{14} FA + \varepsilon_{02}$$

$$\text{Equation 3: } IRE = \alpha_{03} + \beta_{15} BIC + \beta_{16} IKW + \beta_{17} ISF + \beta_{18} IEA + \beta_{19} IEM + \beta_{20} FS + \beta_{21} FA + \varepsilon_{03}$$

$$\text{Equation 4: } FSU = \alpha_{04} + \beta_{22} BIC + \beta_{23} IKW + \beta_{24} ISF + \beta_{25} IEA + \beta_{26} IEM + \beta_{27} FS + \beta_{28} FA + \varepsilon_{04}$$

The investigation of the relationships among best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, internal audit quality, decision making value, organizational goal achievement, and firm success are presented in Equation 5 – 9 as shown:

$$\text{Equation 5: } IAQ = \alpha_{05} + \beta_{29} BIP + \beta_{30} IPE + \beta_{31} IRE + \beta_{32} FS + \beta_{33} FA + \varepsilon_{05}$$

$$\text{Equation 6: } DMV = \alpha_{06} + \beta_{34} IAQ + \beta_{35} FS + \beta_{36} FA + \varepsilon_{06}$$

$$\text{Equation 7: } OGA = \alpha_{07} + \beta_{37} IAQ + \beta_{38} FS + \beta_{39} FA + \varepsilon_{07}$$



$$\text{Equation 8: } FSU = \alpha_{08} + \beta_{40}IAQ + \beta_{41}FS + \beta_{42}FA + \varepsilon_{08}$$

$$\text{Equation 9: } FSU = \alpha_{09} + \beta_{43}DMV + \beta_{44}OGA + \beta_{45}FS + \beta_{46}FA + \varepsilon_{09}$$

The investigation of the relationships among governance vision, internal audit learning, internal audit competency, stakeholder expectation, and each dimension of internal audit intelligence are presented in Equation 10 – 14 as shown:

$$\text{Equation 10: } BIC = \alpha_{10} + \beta_{47}GV + \beta_{48}IAL + \beta_{49}IAC + \beta_{50}SE + \beta_{51}FS + \beta_{52}FA + \varepsilon_{10}$$

$$\text{Equation 11: } IKW = \alpha_{11} + \beta_{53}GV + \beta_{54}IAL + \beta_{55}IAC + \beta_{56}SE + \beta_{57}FS + \beta_{58}FA + \varepsilon_{11}$$

$$\text{Equation 12: } ISF = \alpha_{12} + \beta_{59}GV + \beta_{60}IAL + \beta_{61}IAC + \beta_{62}SE + \beta_{63}FS + \beta_{64}FA + \varepsilon_{12}$$

$$\text{Equation 13: } IEA = \alpha_{13} + \beta_{65}GV + \beta_{66}IAL + \beta_{67}IAC + \beta_{68}SE + \beta_{69}FS + \beta_{70}FA + \varepsilon_{13}$$

$$\text{Equation 14: } IEM = \alpha_{14} + \beta_{71}GV + \beta_{72}IAL + \beta_{73}IAC + \beta_{74}SE + \beta_{75}FS + \beta_{76}FA + \varepsilon_{14}$$

The investigation of the roles of the moderator, namely, internal audit experience which moderates the relationships among governance vision, internal audit learning, internal audit competency, stakeholder expectation, and five dimensions of internal audit intelligence are presented in Equation 15 – 19 as shown:

$$\begin{aligned} \text{Equation 15: } BIC = & \alpha_{15} + \beta_{77}GV + \beta_{78}IAL + \beta_{79}IAC + \beta_{80}SE + \beta_{81}IAE + \\ & \beta_{82}(GV*IAE) + \beta_{83}(IAL*IAE) + \beta_{84}(IAC*IAE) + \beta_{85}(SE*IAE) \\ & + \beta_{86}FS + \beta_{87}FA + \varepsilon_{15} \end{aligned}$$

$$\begin{aligned} \text{Equation 16: } IKW = & \alpha_{16} + \beta_{88}GV + \beta_{89}IAL + \beta_{90}IAC + \beta_{91}SE + \beta_{92}IAE + \\ & \beta_{93}(GV*IAE) + \beta_{94}(IAL*IAE) + \beta_{95}(IAC*IAE) + \beta_{96}(SE*IAE) \\ & + \beta_{97}FS + \beta_{98}FA + \varepsilon_{16} \end{aligned}$$

$$\begin{aligned} \text{Equation 17: } ISF = & \alpha_{17} + \beta_{99}GV + \beta_{100}IAL + \beta_{101}IAC + \beta_{102}SE + \beta_{103}IAE + \\ & \beta_{104}(GV*IAE) + \beta_{105}(IAL*IAE) + \beta_{106}(IAC*IAE) + \\ & \beta_{107}(SE*IAE) + \beta_{108}FS + \beta_{109}FA + \varepsilon_{17} \end{aligned}$$

$$\begin{aligned} \text{Equation 18: } IEA = & \alpha_{18} + \beta_{110}GV + \beta_{111}IAL + \beta_{112}IAC + \beta_{113}SE + \beta_{114}IAE + \\ & \beta_{115}(GV*IAE) + \beta_{116}(IAL*IAE) + \beta_{117}(IAC*IAE) + \\ & \beta_{118}(SE*IAE) + \beta_{119}FS + \beta_{120}FA + \varepsilon_{18} \end{aligned}$$



$$\begin{aligned}
 \text{Equation 19: } IEM = & \alpha_{19} + \beta_{121}GV + \beta_{122}IAL + \beta_{123}IAC + \beta_{124}SE + \beta_{125}IAE + \\
 & \beta_{126}(GV*IAE) + \beta_{127}(IAL*IAE) + \beta_{128}(IAC*IAE) + \\
 & \beta_{129}(SE*IAE) + \beta_{130}FS + \beta_{131}FA + \varepsilon_{19}
 \end{aligned}$$

Where:

BIC	=	Best internal audit concept
IKW	=	Internal audit knowledge well-roundedness
ISF	=	Internal audit skepticism focus
IEA	=	Internal audit ethics awareness
IEM	=	Internal audit excellence mindset
BIP	=	Best internal audit practice
IPE	=	Internal audit planning effectiveness
IRE	=	Internal audit review efficiency
IAQ	=	Internal audit quality
DMV	=	Decision making value
OGA	=	Organizational goal achievement
FSU	=	Firm success
GV	=	Governance vision
IAL	=	Internal audit learning
IAC	=	Internal audit competency
SE	=	Stakeholder expectation
IAE	=	Internal audit experience
FS	=	Firm size
FA	=	Firm age
$\varepsilon$	=	Error term
$\alpha$	=	Constant
$\beta$	=	Coefficient



## Summary

This chapter describes the research methods used to examine the collected data and test the relationships among the constructs based on the conceptual model to answer the research questions. This chapter details the sample selection, the data collection process, the test of non-response bias, the measured variables, the tool verification of validity and reliability tests, and the statistical analyses. The population of this research is 518 Thai-listed firms of which the database is drawn from the Stock Exchange of Thailand (SET) on their websites: [www.set.or.th](http://www.set.or.th) as of March 15, 2013, and the key informant is the internal audit director or internal audit manager of each firm, who is considered properly represented. This research used a questionnaire for data collection. Ordinary least square regression analysis is operated to test the postulated hypotheses. Moreover, this chapter has also proposed a set of nineteen equations for testable hypotheses.

Next, Chapter four presents the descriptive statistics and correlation analysis that shows the respondents' characteristics and the characteristics of the Thai-listed firms. Hence, the results from the data analysis and hypotheses testing which include the important points of the twenty hypotheses proposed are tested and fully discussed.



## CHAPTER IV

### RESULTS AND DISCUSSION

The previous chapter describes the research methods which help to understand the methods used in the data analysis and hypotheses testing. This chapter presents the results of hypotheses testing which are organized as follows. Firstly, the respondent characteristics and descriptive statistics are expressed for increased understanding of the sample characteristics. Secondly, the results of correlation analysis and hypotheses testing by using multiple regression analysis are detailed. Finally, the summary of all hypotheses testing is also provided.

#### **Respondent Characteristics and Descriptive Statistics**

In this research, 126 Thai-listed firms are the unit of analysis and the internal audit director or internal audit manager of each firm is the key informant. The respondent characteristics are described by the demographic characteristics including gender, age, marital status, education level, work experience, average income per month, and present position. Moreover, the main characteristics of the Thai-listed firms are also included in this section.

##### Respondent Characteristics

The results of the demographic characteristics of 126 key respondents are presented in Appendix D. Most respondents are male (53.97%). The age span of respondents is between 41-50 years old (33.33%). Most respondents are married (54.76%). For the education level, the majority of the key respondents obtained a higher than bachelor degree (65.08%). Most of respondents have working experience in the company for more than 15 years (56.35%). Moreover, most of the respondents receive average revenue of less than 100,000 Baht per month (55.56%). Finally, the majority of the working positions at present of the respondents are internal audit manager (46.03%).

##### Thai-listed Firm Characteristics

The findings of 126 Thai-listed firm's demographic characteristics are presented in Appendix E. Most respondents are registered as industrial type is



technology (15.87%). Most the period of time in registers in the Stock Exchange of Thailand is more than 15 years (57.14%). The period of time in proceeding business is more than 15 years (78.57%). The authorized capitals are less than 1,000,000,000 Baht (50.00%). The total assets of the firms' respondents are mostly less than 10,000,000,000 Baht (50.00%). In addition, the most of firms have debt-to-equity ratio as 2-3 times (39.68%). Finally, most of the firms' respondents received achievement awards (69.05%).

### Descriptive Statistics

The analysis of the descriptive statistics describes the basic characteristics of variables including the mean and standard deviation. In other word, the descriptive statistics are used to analyze the basic features of the data in this research. The descriptive statistics of all variables of 126 usable respondents are demonstrated in Table 6.

Table 6 demonstrates the descriptive statistics including the means and standard deviations. The results show that the mean scores for the measure of internal audit intelligence are namely, best internal audit concept (4.329), internal audit knowledge well-roundedness (4.123), internal audit skepticism focus (4.053), internal audit ethics awareness (4.273), and internal audit excellence mindset (4.164). Additional, the mean of consequences are namely, best internal audit practice (4.109), internal audit planning effectiveness (4.035), internal audit review efficiency (4.170), internal audit quality (4.111), decision making value (4.160), organizational goal achievement (4.136), and firm success (3.944).

The descriptive statistics of the antecedents of internal audit intelligence are shown in Table 6. The results show that the mean scores are rather high including governance vision (4.337), internal audit learning (4.168), internal audit competency (4.109), and stakeholder expectation (4.087). Additionally, the mean of the moderator effect of internal audit experience are 4.430, respectively.

### Correlation Analysis

A correlation is a single number that describes the degree of relationship between two variables. This research uses the Pearson correlation analysis for two purposes: to explore the relationships between variables and to check the presence of multicollinearity problem. However, these correlations are less than 0.90 as



recommended by Hair et al. (2010). As a result, the multicollinearity problems should not be concerned. The results of correlation analysis of all variables are shown in Table 6.

The correlation matrix of all variables in Table 6 indicates that they are significantly related among the five dimensions of internal audit intelligence between 0.574 – 0.814,  $p < 0.01$ . The correlation matrix reveals a correlation between the consequences of the dimensions of internal audit intelligence. The results indicate that the dimensions of internal audit intelligence in relation to best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, internal audit quality, decision making value, organizational goal achievement, and firm success have a significant positive correlation between 0.410 – 0.694,  $p < 0.01$ . The antecedent constructs, including governance vision, internal audit learning, internal audit competency, and stakeholder expectation are significantly related to the dimensions of internal audit intelligence have a significant positive correlation between 0.499 – 0.736,  $p < 0.01$ . Finally, the moderator effect of internal audit experience had correlations with all variables between 0.434 – 0.660,  $p < 0.01$ .



Table 6: Descriptive Statistics and Correlation Matrix of Effects of Internal Audit Intelligence on All Constructs

Variables	BIC	IKW	ISF	IEA	IEM	BIP	IPE	IRE	IAQ	DMV	OGA	FSU	GV	IAL	IAC	SE	IAE	FA	FS
<b>Mean</b>	4.329	4.123	4.053	4.273	4.164	4.109	4.035	4.170	4.111	4.160	4.136	3.944	4.337	4.168	4.109	4.087	4.430	N/A	N/A
<b>S.D.</b>	0.500	0.532	0.560	0.517	0.581	0.526	0.550	0.557	0.551	0.517	0.639	0.664	0.544	0.559	0.520	0.597	0.549	N/A	N/A
<b>BIC</b>	1.00																		
<b>IKW</b>	.631**	1.00																	
<b>ISF</b>	.574**	.775**	1.00																
<b>IEA</b>	.649**	.685**	.717**	1.00															
<b>IEM</b>	.628**	.698**	.743**	.814**	1.00														
<b>BIP</b>	.518**	.623**	.592**	.611**	.694**	1.00													
<b>IPE</b>	.418**	.629**	.547**	.535**	.575**	.672**	1.00												
<b>IRE</b>	.498**	.614**	.542**	.660**	.673**	.778**	.757**	1.00											
<b>IAQ</b>	.542**	.619**	.535**	.608**	.668**	.709**	.671**	.800**	1.00										
<b>DMV</b>	.520**	.621**	.566**	.656**	.657**	.752**	.700**	.853**	.822**	1.00									
<b>OGA</b>	.549**	.582**	.572**	.536**	.576**	.511**	.444**	.502**	.558**	.604**	1.00								
<b>FSU</b>	.477**	.516**	.519**	.410**	.548**	.457**	.456**	.488**	.539**	.535**	.853**	1.00							
<b>GV</b>	.655**	.577**	.573**	.709**	.736**	.505**	.473**	.600**	.613**	.648**	.604**	.491**	1.00						
<b>IAL</b>	.636**	.585**	.503**	.644**	.628**	.501**	.598**	.560**	.536**	.537**	.467**	.428**	.681**	1.00					
<b>IAC</b>	.499**	.580**	.515**	.649**	.688**	.623**	.644**	.717**	.656**	.706**	.450**	.444**	.651**	.726**	1.00				
<b>SE</b>	.507**	.636**	.578**	.667**	.694**	.650**	.641**	.785**	.664**	.765**	.491**	.495**	.640**	.713**	.876**	1.00			
<b>IAE</b>	.616**	.468**	.560**	.588**	.638**	.594**	.434**	.613**	.522**	.610**	.571**	.568**	.625**	.546**	.604**	.660**	1.00		
<b>FA</b>	.204**	.011**	.042**	.072**	.039**	-.049*	-.062	.006**	.049**	-.057**	.079	.161	-.009	.104	.018	.049	-.015	1.00	
<b>FS</b>	.392**	.290**	.307**	.197*	.202*	.240**	.296**	.236**	.273**	.305**	.364**	.306**	.162	.217*	.141	.095	.149	.035	1.00

\*  $p < 0.05$ , \*\*  $p < 0.01$



## Hypothesis Testing and Results

The ordinary least squares (OLS) regression analysis is conducted in the research. The generated regression equation is a linear combination of the multiple independent variables which is the best way to explain and predict the effect of the independent variables on the dependent variable. Accordingly, the OLS is an appropriate method for examining the hypothesized relationships which all proposed hypotheses are transformed to nineteen equations. Following this further, there are two dummy variables including firm size and firm age which are consistent with the data collection were included in those equations for testing as follows.

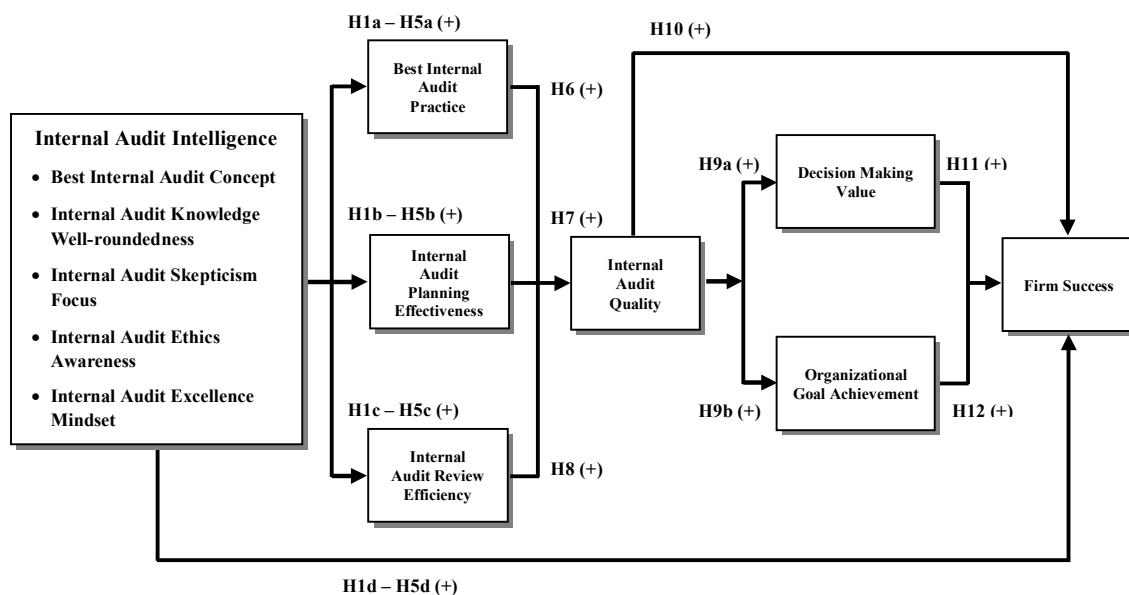
### The Impacts of Each Dimension of Internal Audit Intelligence on Its Consequences

Figure 6 demonstrates the relationships between five dimensions of internal audit intelligence (including best internal audit concept, internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset) and the consequences of internal audit intelligence consist of best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, and firm success based on Hypotheses 1(a-d) – 5(a-d). Moreover, Figure 6 demonstrates the relationships among the consequences of internal audit intelligence (including best internal audit practice, internal audit planning effectiveness, and internal audit review efficiency), internal audit quality, decision making value, organizational goal achievement, and firm success, which are based on Hypotheses 6 – 12.

In summary, this research proposes that internal audit intelligence is positively associated with best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, and firm success. Moreover, the three consequences of internal audit intelligence are positively associated with internal audit quality, decision making value, organizational goal achievement, and firm success. These hypotheses are analyzed by the regression equation in Models 1 – 9 according to Chapter 3. The results of the OLS regression analysis are provided in Tables 8 – 10 that show the scale of adjusted  $R^2$  range from 0.373 to 0.503 (Models 1 – 4), 0.657 (Model 5), 0.319 to 0.685 (Model 6 – 8), and 0.729 (Models 9), respectively.



Figure 6: The Effect of Internal Audit Intelligence on Its Consequences



The correlations among each dimension of internal audit intelligence and its consequences are shown in Table 7. The results show that each dimension of internal audit intelligence consists of best internal audit concept, internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset are significantly and positively correlated with the consequence variables. Firstly, the relationship between each dimension of internal audit intelligence are significantly and positively correlated to best internal audit practice as  $r=0.518$ ,  $r=0.623$ ,  $r=0.592$ ,  $r=0.611$ ,  $r = 0.694$ ,  $p < 0.01$  respectively. Secondly, each dimension of internal audit intelligence has a significant and positive correlation with internal audit planning effectiveness as  $r = 0.418$ ,  $r = 0.629$ ,  $r = 0.547$ ,  $r = 0.535$ ,  $r = 0.575$ ,  $p < 0.01$  respectively. Thirdly, each dimension of internal audit intelligence has a significant and positive correlation with internal audit review efficiency as  $r = 0.498$ ,  $r = 0.614$ ,  $r = 0.542$ ,  $r = 0.660$ ,  $r = 0.673$ ,  $p < 0.01$  respectively. Finally, each dimension of internal audit intelligence is significantly and positively correlated to firm success as  $r = 0.477$ ,  $r = 0.516$ ,  $r = 0.519$ ,  $r = 0.410$ ,  $r = 0.548$ ,  $p < 0.01$ .

In addition, the relationship between best internal audit practice, internal audit planning effectiveness, and internal audit review efficiency are significantly and positively correlated to internal audit quality as  $r = 0.709$ ,  $r = 0.671$ ,  $r = 0.800$ ,  $p < 0.01$ .

Moreover, the relationships among internal audit quality, decision making value, organizational goal achievement, and firm success are significantly and positively correlated as  $r = 0.822$ ,  $r = 0.558$ ,  $r = 0.539$ ,  $p < 0.01$ . Furthermore, the relationship between decision making value and organizational goal achievement are significantly and positively correlated to firm success as  $r = 0.535$ ,  $r = 0.853$ ,  $p < 0.01$ .

Table 7: Descriptive Statistics and Correlation Matrix of Effects of Internal Audit Intelligence on Its Consequences

Variables	BIC	IKW	ISF	IEA	IEM	BIP	IPE	IRE	IAQ	DMV	OGA	FSU	FA	FS
<b>Mean</b>	4.329	4.123	4.053	4.273	4.164	4.109	4.035	4.170	4.111	4.160	4.136	3.944	N/A	N/A
<b>S.D.</b>	0.500	0.532	0.560	0.517	0.581	0.526	0.550	0.557	0.551	0.517	0.639	0.664	N/A	N/A
<b>BIC</b>	1.00													
<b>IKW</b>	.631**	1.00												
<b>ISF</b>	.574**	.775**	1.00											
<b>IEA</b>	.649**	.685**	.717**	1.00										
<b>IEM</b>	.628**	.698**	.743**	.814**	1.00									
<b>BIP</b>	.518**	.623**	.592**	.611**	.694**	1.00								
<b>IPE</b>	.418**	.629**	.547**	.535**	.575**	.672**	1.00							
<b>IRE</b>	.498**	.614**	.542**	.660**	.673**	.778**	.757**	1.00						
<b>IAQ</b>	.542**	.619**	.535**	.608**	.668**	.709**	.671**	.800**	1.00					
<b>DMV</b>	.520**	.621**	.566**	.656**	.657**	.752**	.700**	.853**	.822**	1.00				
<b>OGA</b>	.549**	.582**	.572**	.536**	.576**	.511**	.444**	.502**	.558**	.604**	1.00			
<b>FSU</b>	.477**	.516**	.519**	.410**	.548**	.457**	.456**	.488**	.539**	.535**	.853**	1.00		
<b>FA</b>	.204**	.011**	.042**	.072**	.039**	-.049*	-.062	.006**	.049**	-.057**	.079	.161	1.00	
<b>FS</b>	.392**	.290**	.307**	.197*	.202*	.240**	.296**	.236**	.273**	.305**	.364**	.306**	.035	1.00

\*  $p < 0.05$ , \*\*  $p < 0.01$

However, these correlations are less than 0.90 as recommended by Hair et al. (2010). Moreover, variance inflation factors (VIFs) are utilized to test the inter-correlation among four dimensions of value creation strategy on its consequences. The maximum value of VIF is 3.680 well below the cut-off value of 10 (Neter et al., 1985). As a result, there are no substantial multicollinearity problems encountered in this regression analysis.

The correlations among each dimension of internal audit intelligence, three consequences of internal audit intelligence – best internal audit practice, internal audit



planning effectiveness, internal audit review efficiency, and firm success are explained respectively. Firstly, the correlations among the first dimension of internal audit intelligence on three consequences of internal audit intelligence and firm success are demonstrated in Table 7. The results present that best internal audit concept is significantly and positively correlated to best internal audit practice ( $r = 0.518, p < 0.01$ ), internal audit planning effectiveness ( $r = 0.418, p < 0.01$ ), internal audit review efficiency ( $r = 0.498, p < 0.01$ ), and firm success ( $r = 0.477, p < 0.01$ ).

Table 8 presents the results of the OLS regression analysis of the relationships among five dimensions of internal audit intelligence, best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, and firm success. According to Table 8, the results of the regression analysis show that the relationships among the first dimension of internal audit intelligence, three consequences of internal audit intelligence, and firm success indicate that best internal audit concept has no significant effect on best internal audit practice ( $\beta_1 = 0.059, p > 0.10$ ), internal audit planning effectiveness ( $\beta_8 = -0.106, p > 0.10$ ), internal audit review efficiency ( $\beta_{15} = -0.036, p > 0.10$ ), and firm success ( $\beta_{22} = 0.107, p > 0.10$ ). This finding support that the firm may have a good internal control assessment, but if the internal auditors do not have enough business knowledge to make the incorrect analysis that reduces the quality of the audit work (Baker, 2010). Similarly, Ionescu (2011) suggested that an internal auditor who did not understand the operation consistently, has ability to assess the internal controls are different, which makes them more vulnerable. Moreover, the possible reason for this is that the internal controls do not align reasonable assurance with the needs and priorities of all of its key stakeholders leading to a reduction in adding value to the organization and its stakeholders (Hass et al., 2006). Furthermore, Chernobai et al. (2011) stated that bad internal control minimizes operational efficiency, increasing the risk including that the company's performance is likely to decline in the long-term. **Hence, Hypotheses 1a, 1b, 1c, and 1d are not supported.**

Secondly, the correlations among the second dimension of internal audit intelligence on three consequences of internal audit intelligence and firm success are demonstrated in Table 7. The results present that internal audit knowledge well-roundedness is significantly and positively correlated to best internal audit practice



( $r = 0.623, p < 0.01$ ), internal audit planning effectiveness ( $r = 0.629, p < 0.01$ ), internal audit review efficiency ( $r = 0.614, p < 0.01$ ), and firm success ( $r = 0.516, p < 0.01$ ).

According to Table 8, the results of the regression analysis show that the relationships among the second dimension of internal audit intelligence, three consequences of internal audit intelligence, and firm success indicate that internal audit knowledge well-roundedness has a significant positive effect on best internal audit practice ( $\beta_2 = 0.218, p < 0.05$ ), internal audit planning effectiveness ( $\beta_9 = 0.429, p < 0.01$ ), and internal audit review efficiency ( $\beta_{16} = 0.281, p < 0.05$ ). The possible reason for this is that the lack of knowledge, skills, and experience that is necessary for audit planning of the internal auditors may be ignored by some critical activities as the material weaknesses (Backer, 2010; Ge and McVay, 2005). As a result, the usefulness of financial reporting for making decisions decreases (Sori, 2009). Furthermore, errors in the audit planning stages are the factors that cause inefficiency in confidence to the customers for the quality of service that are meeting continuously (Karapetrovic and Willborn, 2000). Moreover, a lack of resources and insufficient information for planning, leads to decreased effectiveness of an audit plan. This is because cooperation and teamwork requires more resources such as funding, information, time, and people in each section to provide a comprehensive plan to make the operation more efficient (Swafford, 2009). ***Thus, Hypotheses 2a, 2b, and 2c are supported.***

On the other hand, internal audit knowledge well-roundedness has no significant effect on firm success ( $\beta_{23} = 0.180, p > 0.10$ ). This is consistent with prior studies which suggest that the internal audit should adjust the internal audit planning and procedures in order to ensure suitable supervision. Consequently, internal audit planning affects actions and adds value to the organization, which has an important role to focus on governance and effectiveness in the business process (Pickett, 2006). If the audit is planned properly, it will result in a quality audit. Appropriateness and adequate planning ensure the success of the audit and improves efficiency (Mihret and Yismaw, 2007). In addition, the internal audit requires effective and efficient audit planning to achieve set audit objectives in terms of appropriate risk. Importantly, comprehensive internal audit planning helps effective risk assessment which will allow auditors to focus on truly high risk areas (Koutoupis and Tsamis, 2009). Therefore, internal audit



knowledge well-roundedness no affects firm success. ***Thus, Hypothesis 2d is not supported.***

Thirdly, the correlations among the third dimension of internal audit intelligence on three consequences of internal audit intelligence and firm success are demonstrated in Table 7. The results present that internal audit skepticism focus is significantly and positively correlated to best internal audit practice ( $r = 0.592, p < 0.01$ ), internal audit planning effectiveness ( $r = 0.547, p < 0.01$ ), internal audit review efficiency ( $r = 0.542, p < 0.01$ ), and firm success ( $r = 0.519, p < 0.01$ ).

According to Table 8, the results of the regression analysis show that the relationships among the third dimension of internal audit intelligence, three consequences of internal audit intelligence, and firm success indicate that internal audit skepticism focus has no significant effect on best internal audit practice ( $\beta_3 = 0.005, p > 0.10$ ), internal audit planning effectiveness ( $\beta_{10} = -0.028, p > 0.10$ ), internal audit review efficiency ( $\beta_{17} = -0.161, p > 0.10$ ), and firm success ( $\beta_{24} = 0.145, p > 0.10$ ). It may be implied that operational skills affect the operation and also improve the operation and performance of organization to achieve organization's goals and objectives (Havelka and Merhout, 2013). Furthermore, good internal audit practice, results in the effectiveness of risk management and driving that superior operations (Dembowski, 2013; Patilis, 2008). It shows that internal auditors must have sufficient knowledge and skill, processes, methods, and procedures to keenly assess the likelihood of risky events in order to achieve the audit goals effectively. ***Thus, Hypotheses 3a, 3b, 3c, and 3d are not supported.***

Fourthly, the correlations among the fourth dimension of internal audit intelligence on three consequences of internal audit intelligence and firm success are demonstrated in Table 7. The results present that internal audit ethics awareness is significantly and positively correlated to best internal audit practice ( $r = 0.611, p < 0.01$ ), internal audit planning effectiveness ( $r = 0.535, p < 0.01$ ), internal audit review efficiency ( $r = 0.660, p < 0.01$ ), and firm success ( $r = 0.410, p < 0.01$ ).

Interestingly, internal audit ethics awareness is the fourth dimension of internal audit intelligence, which focuses on the guidelines for monitoring, verifying, and re-checking the activities of the internal audit. However, the results of the regression analysis show that internal audit ethics awareness has no significant effect on best



internal audit practice ( $\beta_4 = 0.042, p > 0.10$ ) and internal audit planning effectiveness ( $\beta_{11} = 0.096, p > 0.10$ ), but it has a significant positive effect on internal audit review efficiency ( $\beta_{18} = 0.297, p < 0.05$ ). On the other hand, internal audit ethics awareness has a negative effect on firm success ( $\beta_{25} = -0.286, p < 0.05$ ). This result is consistent with the research of Fargher et al. (2005) who stated that the reviewer has experienced different operations results in the perceived the scope of review, goals of the organization, and the time to use in comment different. According to Houston and Stefaniak (2013) stated that the less experienced reviewer focuses on improving the quality of internal audit in the present and future rather than more experienced reviewer. From the result, work experience and a period of time registers in the Stock Exchange of Thailand more than 15 years, which is more experienced, so it is possible that internal audit review did not result in an effective internal audit. Furthermore, prior research found that workload pressure influences the review method and led to poor performance (Agolia et al., 2010). Another reason may be because time pressure of internal audit is required to work with a limited budget and time. Thus, time pressure may lead to a review of the work or operation is less than normal, especially in Thailand, which internal audit is responsible and responsive to the expectations of stakeholders, the requirements of the SET (McCoy et al., 2011). In addition, an insufficient and ineffective review of the internal audit results in insufficient information for risk management (Palfi and Muresan, 2009). Moreover, the correct and complete action review is not enough, as the results impair financial reporting quality and cannot add value to the organization (Nelson and Tan, 2005; Russell, 2004). Therefore, the results of this research conclude that dynamic internal audit review cannot result in the outcomes of the internal audit which may be caused by experience, pressure of workload or both. ***Therefore, Hypothesis 4c is supported, but Hypotheses 4a, 4b, and 4d are not supported.***

Finally, the correlations among the fifth dimension of internal audit intelligence on three consequences of internal audit intelligence and firm success are demonstrated in Table 7. The results present that internal audit excellence mindset is significantly and positively correlated to best internal audit practice ( $r = 0.694, p < 0.01$ ), internal audit planning effectiveness ( $r = 0.575, p < 0.01$ ), internal audit review efficiency ( $r = 0.673, p < 0.01$ ), and firm success ( $r = 0.548, p < 0.01$ ).



According to Table 8, the results of the regression analysis show that the relationships among the fifth dimension of internal audit intelligence, three consequences of internal audit intelligence, and firm success indicate that internal audit excellence mindset has a significant positive influence on best internal audit practice ( $\beta_5 = 0.459$ ,  $p < 0.01$ ), internal audit planning effectiveness ( $\beta_{12} = 0.256$ ,  $p < 0.05$ ), internal audit review efficiency ( $\beta_{19} = 0.361$ ,  $p < 0.01$ ), and firm success ( $\beta_{26} = 0.449$ ,  $p < 0.01$ ). According to prior studies, these results suggest that the helps internal audit excellence mindset ensure best internal audit practice and internal audit planning effectiveness (Aikins, 2011; Holt, 2009; Holt and DeZoort, 2008). In particular, timely reporting reduces the uncertainty related to investment decisions and asymmetric dissemination of financial information among stakeholders as the cause of financial reporting reliability (Ika and Ghazali, 2012). Moreover, timely internal audit reporting leads to appropriate solution to meet the situation in evaluating the continuous operations of organizations effectively (Kametovide, 2009). Furthermore, a well-timed an internal audit report is the best opportunity that management uses to make decisions in timely manner, resulting in increased value to the organization (Sparks, 2011). **Thus, Hypotheses 5a, 5b, 5c, and 5d are supported.**

In sum, these finding reveal that most of the five dimensions of internal audit intelligence (best internal audit concept, internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset) have influenced directly on its consequential variables. Therefore, Hypothesis 5 is fully supported, and Hypotheses 2 and 4 are partially supported. Nevertheless, for two dimensions of internal audit intelligence are not supported.





Table 8: Results of Regression Analysis for Effects of Internal Audit Intelligence on Its Consequences

Independent Variables	Dependent Variables <sup>a</sup>			
	BIP	IPE	IRE	FSU
	Model 1 H1a-H5a	Model 2 H1b-H5b	Model 3 H1c-H5c	Model 4 H1d-H5d
<b>Best Internal Audit Concept (BIC)</b>	0.059 (0.096)	-0.106 (0.104)	-0.036 (0.097)	0.107 (0.108)
<b>Internal Audit Knowledge Well-roundedness (IKW)</b>	0.218** (0.110)	0.429*** (0.118)	0.281** (0.110)	0.180 (0.123)
<b>Internal Audit Skepticism Focus (ISF)</b>	0.005 (0.115)	-0.028 (0.123)	-0.161 (0.115)	0.145 (0.129)
<b>Internal Audit Ethics Awareness (IEA)</b>	0.042 (0.119)	0.096 (0.127)	0.297** (0.119)	-0.286** (0.133)
<b>Internal Audit Excellence Mindset (IEM)</b>	0.459*** (0.121)	0.256** (0.130)	0.361*** (0.122)	0.449*** (0.136)
<b>Firm Size (FS)</b>	0.108 (0.140)	0.306** (0.151)	0.175 (0.141)	0.257 (0.157)
<b>Firm Age (FA)</b>	-0.379 (0.284)	-0.290 (0.306)	-0.096 (0.286)	0.565* (0.319)
<b>Adjusted R<sup>2</sup></b>	0.503	0.426	0.498	0.373
<b>Maximum VIF</b>	3.680	3.680	3.680	3.680

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , <sup>a</sup> Beta coefficients with standard errors in parenthesis

Additionally, firm size has a significant positive effect on internal audit planning effectiveness ( $\beta_{13} = 0.306, p < 0.05$ ). Conversely, firm size does not significantly affect best internal audit practice ( $\beta_6 = 0.108, p > 0.10$ ), internal audit review efficiency ( $\beta_{20} = 0.175, p > 0.10$ ), and firm success ( $\beta_{27} = 0.257, p > 0.10$ ) meaning that firm size does not impact best internal audit practice, internal audit review efficiency, and firm success. In addition, firm age does not significantly impact on best internal audit practice ( $\beta_7 = -0.379, p > 0.10$ ), internal audit planning effectiveness ( $\beta_{14} = -0.290, p > 0.10$ ), and internal audit review efficiency ( $\beta_{21} = -0.096, p > 0.10$ ), but



has a positive significant impact on firm success ( $\beta_{28} = 0.565, p < 0.10$ ). It implies that firm age does not impact on best internal audit practice, internal audit planning effectiveness, and internal audit review efficiency, but impact on firm success.

For the control variable, firm size and firm age have significant influence on internal audit planning effectiveness and firm success.

The Effects of Best Internal Audit Practice, Internal Audit Planning Effectiveness, and Internal Audit Review Efficiency on Internal Audit Quality

Figure 6 as shown above that demonstrates the relationships among best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, and internal audit quality based on Hypotheses 6 – 8. This research proposes that best internal audit practice, internal audit planning effectiveness, and internal audit review efficiency have a positive associate with firm success (Hypotheses 6 – 8). These hypotheses are examined by the regression equation in Model 5 according to Chapter 3. The results of the OLS regression analysis are demonstrated in Table 10 as shown below that shows the scale of adjusted  $R^2$  is 0.657.

Table 9: Descriptive Statistics and Correlation Matrix of Effects of Best Internal Audit Practice, Internal Audit Planning Effectiveness, Internal Audit Review Efficiency, and Internal Audit Quality

Variables	BIP	IPE	IRE	IAQ	FA	FS
Mean	4.109	4.035	4.170	4.111	N/A	N/A
S.D.	0.526	0.550	0.557	0.551	N/A	N/A
BIP	1.00					
IPE	.672**	1.00				
IRE	.778**	.757**	1.00			
IAQ	.709**	.671**	.800**	1.00		
FA	-.049*	-.062	.006**	.049**	1.00	
FS	.240**	.296**	.236**	.273**	.035	1.00

\*  $p < 0.05$ , \*\*  $p < 0.01$



The correlations among best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, and internal audit quality are presented in Table 9. The results show that best internal audit practice, internal audit planning effectiveness, and internal audit review efficiency are significantly and positively correlated with internal audit quality. According to Table 9, internal audit quality is significantly and positively correlated to best internal audit practice ( $r = 0.709, p < 0.01$ ), internal audit planning effectiveness ( $r = 0.671, p < 0.01$ ), and internal audit review efficiency ( $r = 0.800, p < 0.01$ ). However, most of these correlations are less than 0.90 as recommended by Hair et al. (2010). As a result, the multicollinearity problems should not be a concern in this research.

With regard to potential problems relating to multicollinearity, variance inflation factors (VIFs) are used to test for inter-correlations among best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, and internal audit quality. In this case, the maximum value of VIF is 3.430 as shown in Table 10, which is well below the cut-off value of 10 (Hair et al., 2010), meaning best internal audit practice, internal audit planning effectiveness, and internal audit review efficiency are not correlated with each other. Hence, there are no significant multicollinearity problems confronted in this research.

The results in Table 10 demonstrate that best internal audit practice has a significant positive effect on internal audit quality ( $\beta_{29} = 0.197, p < 0.05$ ). This result is consistent with the research of Ninlaphay (2012) and Gates (2009) who suggested that financial reliability can improve the effectiveness of management decisions, but to achieve business goals could be the result of other factors such as the ability of the management team, collaboration and enthusiasm of the employees in the organization, and other environmental factors that affect the organization. ***Thus, Hypothesis 6 is supported.***

In addition, the results find that internal audit planning effectiveness has not a significant positive effect on internal audit quality ( $\beta_{30} = 0.107, p > 0.10$ ). Prior research stated that operational system efficiency has no positive effect on its consequences. It may imply that the efficiency of all systems in the firm bring success to the firm. Although the system is effective, the lack of continuous and accurate follow-through will not maximize the benefits in an organization (Ninlaphay et al., 2012). Moreover,



based on the opinions of the informants they stated that the internal audit is a service that provides confidence to the executive to achieve the audit objectives set by the need for cooperation from all parties, including the realization of the role of the internal audit about continuous operational process improvement to achieve sustainable development. As a result, the achievement of firms' goal may depend on employees' cooperation and participation. **Thus, Hypothesis 7 is not supported.**

Table 10: Results of Regression Analysis for Effects of Best Internal Audit Practice, Internal Audit Planning Effectiveness, and Internal Audit Review Efficiency on Internal Audit Quality

Independent Variables	Dependent Variable <sup>a</sup>
	IAQ
	Model 5 H6-H8
<b>Best Internal Audit Practice (BIP)</b>	0.197** (0.085)
<b>Internal Audit Planning Effectiveness (IPE)</b>	0.107 (0.083)
<b>Internal Audit Review Efficiency (IRE)</b>	0.551*** (0.097)
<b>Firm Size (FS)</b>	0.260 (0.230)
<b>Firm Age (FA)</b>	0.123 (0.110)
<b>Adjusted R<sup>2</sup></b>	0.657
<b>Maximum VIF</b>	3.430

\*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , <sup>a</sup> Beta coefficients with standard errors in parenthesis

Moreover, the results show that internal audit review efficiency has a significant positive effect on internal audit quality ( $\beta_{31} = 0.551$ ,  $p < 0.01$ ). These results support that the internal audit is the activities of assurance and consultation, which are



independent and non-bias audit reviews to enhance the value of the firms and to achieve set goals (Mihret and Yismaw, 2007). This is consistent with the research of Barac et al. (2009) who found that the internal audit functions perceived the increased value of the organization about the recommendations of the internal audits for implementation and risk assessment. Furthermore, Roth (2003) suggests that the critical component to the added value of a firm is extensive staff expertise a challenging work environmental organizational alignment or reinvention and improved performance, and an array of audit services, which are the characteristics of added value to an organization. In addition, the consistency of the vision, mission and strategy of a firm, at both the policy level and operational level, including resistance within, also influences the ability to achieve the organizations' goals (Lines, 2004). **Thus, Hypothesis 8 is supported.**

For the control variables, firm size and firm age have no significant influence on internal audit quality ( $\beta_{32} = 0.123, p > 0.10$ ;  $\beta_{33} = 0.260, p > 0.10$ ).

#### The Effects of Internal Audit Quality on Decision Making Value, Organizational Goal Achievement, and Firm Success

The relationships among internal audit quality, decision making value, organizational goal achievement, and firm success are demonstrated in Figure 6, which based on Hypotheses 9a, 9b, and 10. This research proposes that internal audit quality has a positive associate with decision making value, organizational goal achievement, and firm success (Hypotheses 9 – 10). These hypotheses are examined by the regression equation in Models 6 – 8 according to Chapter 3. The results of the OLS regression analysis are demonstrated in Table 12 as shown below that shows the scale of adjusted  $R^2$  range from 0.319 to 0.685 (Models 6 – 8).

The correlations among internal audit quality, decision making value, organizational goal achievement, and firm success are presented in Table 11. The results present that internal audit quality is significantly and positively correlated to decision making value ( $r = 0.822, p < 0.01$ ), organizational goal achievement ( $r = 0.558, p < 0.01$ ), and firm success ( $r = 0.539, p < 0.01$ ). As a result, decision making value, organizational goal achievement, and firm success are significantly and positively correlated to internal audit quality. However, most of these correlations are less than 0.90 as recommended by Hair et al. (2010). As a result, the multicollinearity problems should not a concern in this research.



Table 11: Descriptive Statistics and Correlation Matrix of Effects of Internal Audit Quality on Decision Making Value, Organizational Goal Achievement, and Firm Success

Variables	IAQ	DMV	OGA	FSU	FA	FS
Mean	4.111	4.106	4.136	3.944	N/A	N/A
S.D.	0.551	0.517	0.639	0.664	N/A	N/A
IAQ	1.00					
DMV	.822**	1.00				
OGA	.558**	.604**	1.00			
FSU	.539**	.535**	.853**	1.00		
FA	.049**	-.057**	.079	.161	1.00	
FS	.273**	.305**	.364**	.306**	.035	1.00

\*\*  $p < 0.01$

With regard to potential problems relating to multicollinearity, variance inflation factors (VIFs) are used to test for inter-correlations among internal audit quality, decision making value, organizational goal achievement, and firm success. In this case, the maximum value of variance inflation factor (VIF) is 1.082 as shown in Table 12, which is well below the cut-off value of 10 (Hair et al., 2010). Hence, there are no significant multicollinearity problems confronted in this research.

According to Table 12, the results of the regression analysis demonstrate that internal audit quality has a strong significant positive effect on decision making value ( $\beta_{34} = 0.802, p < 0.01$ ), organizational goal achievement ( $\beta_{37} = 0.493, p < 0.01$ ), and firm success ( $\beta_{40} = 0.487, p < 0.01$ ). This is consistent with the evidence of the current of the recognition for the role of internal audit in risk management when it is appropriate recognize of role led to achieving operational goals of the organization (Zwaan et al., 2011). Risk management of the organization provides a framework for management to effectively deal with the uncertainty and associated risk and opportunity and thereby enhance is capacity in achieving firm goals (Tamosiuniene and Savuck, 2007). Moreover, Karagiorgos (2010) found that the internal audit affected efficient risk management, and consequently, the business success and quality of the work. Likewise,



a strong system of internal audit is good for an organization in risk management through early detection and prevention of errors and frauds which help to achieve performance and profitability and prevents the loss of revenues (Vijayakumar and Nagaraja, 2012).

**Thus, Hypotheses 9a, 9b, and 10 are supported.**

Additionally, firm size has a significant positive influence on decision making value, organizational goal achievement, and firm success ( $\beta_{35} = 0.178, p < 0.10$ ;  $\beta_{38} = 0.454, p < 0.01$ ;  $\beta_{41} = 0.337, p < 0.05$ ). It implies that firm size impact on decision making value, organizational goal achievement, and firm success. In addition, firm age has a significant negative effect on decision making value ( $\beta_{36} = -0.429, p < 0.10$ ). Conversely, firm age has a significant positive effect on firm success ( $\beta_{42} = 0.574, p < 0.10$ ). Moreover, firm age has no significant influence on organizational goal achievement ( $\beta_{39} = 0.204, p > 0.10$ ). It meaning that firm age impact on decision making value and firm success, but does not impact on organizational goal achievement.

Table 12: Results of Regression Analysis for Effects of Internal Audit Quality On Decision Making Value, Organizational Goal Achievement, and Firm Success

Independent Variables	Dependent Variables <sup>a</sup>		
	DMV	OGA	FSU
	Model 6 H9a	Model 7 H9b	Model 8 H10
Internal Audit Quality (IAQ)	0.802*** (0.052)	0.493*** (0.075)	0.487*** (0.077)
Firm Size (FS)	0.178* (0.104)	0.454*** (0.150)	0.337** (0.153)
Firm Age (FA)	-0.429* (0.219)	0.204 (0.315)	0.574* (0.321)
Adjusted R <sup>2</sup>	0.685	0.346	0.319
Maximum VIF	1.082	1.082	1.082

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , <sup>a</sup> Beta coefficients with standard errors in parenthesis



The Effects of Decision Making Value and Organizational Goal Achievement on Firm Success

The relationships among decision making value, organizational goal achievement, and firm success are demonstrated in Figure 6, which based on Hypotheses 11 and 12. This research proposes that decision making value and organizational goal achievement have a positive associate with firm success (Hypotheses 11 – 12). These hypotheses are examined by the regression equation in Model 9 according to Chapter 3. The results of the OLS regression analysis are demonstrated in Table 14 as shown below that shows the scale of adjusted  $R^2$  is 0.729.

The correlations among decision making value, organizational goal achievement, and firm success are presented in Table 13. The results present that decision making value is significantly and positively correlated to organizational goal achievement ( $r = 0.604, p < 0.01$ ) and firm success ( $r = 0.535, p < 0.01$ ). Moreover, organizational goal achievement is significantly and positively correlated to firm success ( $r = 0.853, p < 0.01$ ). As a result, decision making value and organizational goal achievement are significantly and positively correlated to firm success. However, most of these correlations are less than 0.90 as recommended by Hair et al. (2010). As a result, the multicollinearity problems should not a concern in this research.

Table 13: Descriptive Statistics and Correlation Matrix of Effects of Decision Making Value and Organizational Goal Achievement on Firm Success

<b>Variables</b>	<b>DMV</b>	<b>OGA</b>	<b>FSU</b>	<b>FA</b>	<b>FS</b>
<b>Mean</b>	4.160	4.136	3.944	N/A	N/A
<b>S.D.</b>	0.517	0.639	0.664	N/A	N/A
<b>DMV</b>	1.00				
<b>OGA</b>	.604**	1.00			
<b>FSU</b>	.535**	.853**	1.00		
<b>FA</b>	-.057**	.079	.161	1.00	
<b>FS</b>	.305**	.364**	.306**	.035	1.00

\*  $p < 0.05$ , \*\*  $p < 0.01$





With regard to potential problems relating to multicollinearity, variance inflation factors (VIFs) are used to test for inter-correlations among decision making value, organizational goal achievement, and firm success. In this case, the maximum value of variance inflation factor (VIF) is 1.697 as shown in Table 14, which is well below the cut-off value of 10 (Hair et al., 2010). Hence, there are no significant multicollinearity problems confronted in this research.

Table 14: Results of Regression Analysis for Effects of Decision Making Value and Organizational Goal Achievement on Firm Success

Independent Variables	Dependent Variable <sup>a</sup>
	FSU
	Model 9 H11-H12
Decision Making Value (DMV)	0.050 (0.059)
Organizational Goal Achievement (OGA)	0.819*** (0.061)
Firm Size (FS)	0.436** (0.205)
Firm Age (FA)	-0.020 (0.100)
Adjusted R <sup>2</sup>	0.729
Maximum VIF	1.697

\*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , <sup>a</sup> Bata coefficients with standard errors in parenthesis

The results of the regression analysis in Table 14 demonstrate that decision making value has no significant effect on firm success ( $\beta_{43} = 0.050$ ,  $p > 0.10$ ). In contrast, organizational goal achievement has a strong significant positive effect on firm success ( $\beta_{44} = 0.819$ ,  $p < 0.01$ ). This is consistent with the evidence of the current of the recognition for the role of internal audit in risk management when it is appropriate recognize of role led to achieving operational goals of the organization (Zwaan et al.,

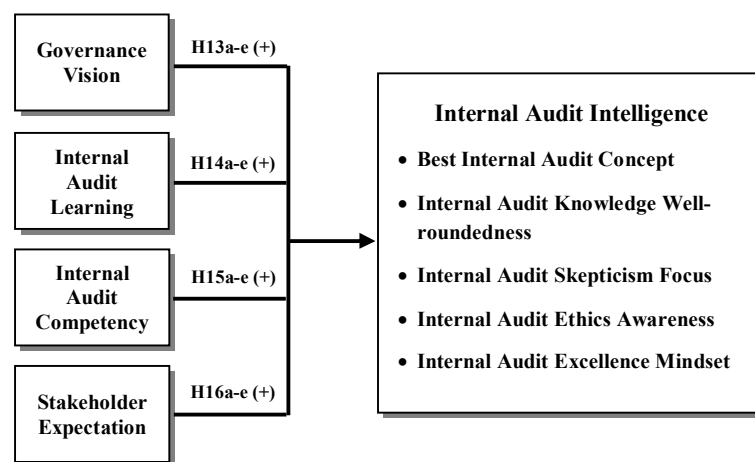


2011). Risk management of the organization provides a framework for management to effectively deal with the uncertainty and associated risk and opportunity and thereby enhance is capacity in achieving firm goals (Tamosiuniene and Savuck, 2007). Moreover, Karagiorgos et al. (2010) found that the internal audit affected efficient risk management, and consequently, the business success and quality of the work. **Thus, Hypothesis 11 is not supported, but Hypothesis 12 is supported.**

Additionally, firm size has a significant positive impact on firm success ( $\beta_{45} = 0.436, p < 0.05$ ), but firm age has not a significant impact on firm success ( $\beta_{46} = -0.020, p > 0.10$ ). It implies that firm size impact on firm success, but firm age does not impact on firm success.

The Impacts of Governance Vision, Internal Audit Learning, Internal Audit Competency, and Stakeholder Expectation on Each Dimension of Internal Audit Intelligence

Figure 7: The Effect of Governance Vision, Internal Audit Learning, Internal Audit Competency, and Stakeholder Expectation on Each Dimension of Internal Audit Intelligence



The relationships among governance vision, internal audit learning, internal audit competency, stakeholder expectation, and each dimension of internal audit intelligence (including best internal audit concept, internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset) are demonstrated in Figure 7, which based on



Hypotheses 13 – 16. This research proposes that governance vision, internal audit learning, internal audit competency, and stakeholder expectation have a positive associate with each dimension of internal audit intelligence (Hypotheses 13 – 16). These hypotheses are examined by the regression equation in Models 10 – 14 according to Chapter 3. The results of the OLS regression analysis are demonstrated in Table 16 as shown below that shows the scale of adjusted  $R^2$  range from 0.430 to 0.620.

Table 15: Descriptive Statistics and Correlation Matrix of Effects of Governance Vision, Internal Audit Learning, Internal Audit Competency, and Stakeholder Expectation on Each Dimension of Internal Audit Intelligence

Variables	BIC	IKW	ISF	IEA	IEM	GV	IAL	IAC	SE	FA	FS
Mean	4.329	4.123	4.053	4.273	4.164	4.337	4.168	4.109	4.087	N/A	N/A
S.D.	0.500	0.532	0.560	0.517	0.581	0.544	0.559	0.520	0.597	N/A	N/A
BIC	1.00										
IKW	.631**	1.00									
ISF	.574**	.775**	1.00								
IEA	.649**	.685**	.717**	1.00							
IEM	.628**	.698**	.743**	.814**	1.00						
GV	.655**	.577**	.573**	.709**	.736**	1.00					
IAL	.636**	.585**	.503**	.644**	.628**	.681**	1.00				
IAC	.499**	.580**	.515**	.649**	.688**	.651**	.726**	1.00			
SE	.507**	.636**	.578**	.667**	.694**	.640**	.713**	.876**	1.00		
FA	.204**	.011**	.042**	.072**	.039**	-.009	.104	.018	.049	1.00	
FS	.392**	.290**	.307**	.197*	.202*	.162	.217*	.141	.095	.035	1.00

\*  $p < 0.05$ , \*\*  $p < 0.01$

The correlations among governance vision, internal audit learning, internal audit competency, stakeholder expectation, and five dimensions of internal audit intelligence are presented in Table 15. The results show that the correlation between governance vision and internal audit excellence mindset ( $r = 0.736$ ,  $p < 0.01$ ) is the highest, while the correlation between internal audit competency and best internal audit concept ( $r = 0.499$ ,  $p < 0.01$ ) is the lowest. As result of governance vision, internal audit learning, internal audit competency, and stakeholder expectation are significantly and



positively correlated to each dimension of internal audit intelligence. However, most of these correlations are less than 0.90 as recommended by Hair et al. (2010). As a result, the multicollinearity problems should not be a concern in this research.

With regard to potential problems relating to multicollinearity, variance inflation factors (VIFs) are used to test for inter-correlations among governance vision, internal audit learning, internal audit competency, and stakeholder expectation. In this case, the maximum value of variance inflation factor (VIF) is 4.855 as shown in Table 16, which is well below the cut-off value of 10 (Hair et al., 2010), meaning governance vision, internal audit learning, internal audit competency, and stakeholder expectation are not correlated with each other. Hence, there are no significant multicollinearity problems confronted in this research.

The results of the regression analysis in Table 16 demonstrate that governance vision has a strong significant positive effect on best internal audit concept ( $\beta_{47} = 0.436$ ,  $p < 0.01$ ), internal audit skepticism focus ( $\beta_{59} = 0.330$ ,  $p < 0.01$ ), internal audit ethics awareness ( $\beta_{65} = 0.418$ ,  $p < 0.01$ ), and internal audit excellence mindset ( $\beta_{71} = 0.459$ ,  $p < 0.01$ ). Additionally, governance vision has a significant positive effect on internal audit knowledge well-roundedness ( $\beta_{53} = 0.217$ ,  $p < 0.05$ ). **Thus, Hypotheses 13a – 13e are supported.**

In recent years, business organizations have faced the challenge of environmental degradation increases: environmental issues are the key pressure for the corporation's effort to develop a business strategy that could assure sustainable development (Halme and Huse, 1997). Also, the external influences make an effort to establish a corporate governance system as it underpins a capitalist system (McCarthy and Puffer, 2002).

For this research, corporate governance vision refers to the organizations policy aimed at a transparent template through operation systems that focus on firms' rights and responsibility, transparency, integrity of their stakeholders both internal and external. Halme and Huse (1997) presented definitions of corporate governance as a process by which corporations are made responsive to rights and wishes of stakeholder and proposed four mechanisms that influence corporate actions: ownership, board of directors, public pressure and regulation. Tiparos and Ussahawanitchakit (2005) surveyed Thai-Listed Companies in Thailand and concluded clearly that the component of corporate governance consists of honesty, transparency, accountability, responsibility,



independence, fairness, and social responsibility. In addition, corporate governance is the exercise of power over and responsibility for corporate entities (McCarthy and Puffer, 2002).

Corporate governance is the tools for controlling corporate behavior that can generate firms' rights by concentrating on responsibility of their stakeholders such as transparency, integrity, ethics, and justices including accountability of information disclosure (Phachsriphum and Ussahawanitchakit, 2009). Four governance elements which Standard & Poors developed as a framework for the evaluation of corporate governance are 1) ownership structure and influence, 2) financial stakeholders rights and relations, 3) financial transparency and disclosure, and 4) board structure and processes. Interestingly, Aaboen et al. (2006) studied the small high-tech firms which found that corporate governance systems are a key factor to improve profitability and to perform better through managers' experience and availability of business including better knowledge of management. Moreover, Eng and Mak (2003) found that the firm characteristics and organizational structure affect the different degrees of corporate governance leading to implementation performance.

Thus, corporate governance has been more important than in the past as a key element of broadening company rules which can help companies control the relationships of internal and external stakeholders.

Moreover, ( $\beta_{54} = 0.132, p > 0.10$ ), internal audit skepticism focus ( $\beta_{60} = -0.007, p > 0.10$ ), internal audit ethics awareness ( $\beta_{66} = 0.112, p > 0.10$ ), and internal audit excellence mindset ( $\beta_{72} = 0.004, p > 0.10$ ). **Therefore, Hypothesis 14a is supported, but Hypotheses 14b – 14e are not supported.**

The rapidly changing business environment causes changes in operating procedures. For more challenging competitiveness, firms need to gain an advantage over the competitors in order to survive and grow (Danneels, 2002) Firms find it necessary to seek new procedures to develop operation including continuously learning about the competitive environment in order to build up competitive opportunity (Sumitsakun and Ussahawanitchaki, 2009). Competitive learning is a type of continuous learning and adaptation process across the enterprises that focuses on customers, competition and competitor, both new and old, include market requirements as a dynamic (Tontiset and Ussahawanitchaki, 2009) The dynamic learning or dynamic



capability concept is critical for businesses needing to operate effectively in a rapidly changing environment and mechanism of dynamic learning that brings advantage over competitor (Chen, Lee and Lay, 2009). Thus, if an organization promotes and supports the dynamic learning process, it will enable organizations to get the winner so as to create a sustainable competitive advantage. Without this process a firm will lose this advantage (Danneels, 2002; Liebowitz, 2006; Revilla, Manzoor and Liu, 2008).

Importantly, stakeholder expectation has a strong significant positive influence on internal audit knowledge well-roundedness ( $\beta_{56} = 0.470, p < 0.01$ ), internal audit skepticism focus ( $\beta_{62} = 0.476, p < 0.01$ ), internal audit ethics awareness ( $\beta_{68} = 0.264, p < 0.05$ ), and internal audit excellence mindset ( $\beta_{74} = 0.260, p < 0.05$ ), but has no significant effect on best internal audit concept ( $\beta_{50} = 0.086, p > 0.10$ ). **Thus, Hypothesis 16a is not supported, but Hypotheses 16b – 16e are supported.**

Stakeholders - well known around the world, - are indicated as organizational success, because stakeholders drive the CSR; their exerted continuous pressure on companies calls for attention to respond to the stakeholders' expectation. Also, Heslin and Ochoa (2008) proposed that the CSR practices can solidify a positive relationship between an organization and its stakeholders. The business has ethics and responsibility to stakeholder besides its owners; investors and shareholders are included in the well being of society linked to the sustainable development movement (Henderson, 2007).

Accordingly, in the stakeholder framework, Freeman (1984) identified relevant stakeholders as anyone or group who impacts the firm. Likewise, for the stakeholder approach Sriramesh et al. (2007: 6) stated that the stakeholder is "a set of interrelated, explicit or implicit connections between individuals and or groups of individuals" that could affect the success of the organizations objectives. Jurgens and others (2010) defined the stakeholder as an individual or group who influences organizational objectives. The stakeholder can be separated into two groups: 1) primary stakeholder (those who are directly related to the organization's operation, e.g., employees, customers and suppliers), and 2) secondary stakeholder (those who are external observers e.g., the media and NGOs). From the literature review, this research defines stakeholder expectation as the values, attitudes, needs or desires of any individual or group of firms who potentially respond to problems to that capture socially conscious, consumer-orientated and environmental considerations (Jurgens et. al., 2010).



Increasing numbers of acclaimed stakeholders are a cornerstone of accountability mechanisms that include corporate social, environmental, economic and ethical governance (Unerman and Bennett, 2004).

In the area of stakeholders attitudes on company activities, Johnsson et al. (2010) studied stakeholder attitudes on Carbon Capture and Storage. The major results showed that all groups of stakeholders expect the organizational implementation of reduced energy such as increasing energy efficiency and increasing the use of renewable and unclear power including land use change and tree planting. The key issues requires the belief in overcoming climate change and achieving major market entry. The results of Jonge's (2006) study indicated that more attention to corporate sustainability development (economic, societal and environmental context) such as full transparency, beyond legal compliance contributes more to a better response to stakeholder expectations. Furthermore, the public requirement is a key important to force the firm's operations, it has a direct or indirect effect on the firm's practices and success (Todt, 2011). Therefore, the better relationship with stakeholders and the response to stakeholder expectations can help improve the business reputation and good image toward sustainability. However, Scott and Lane (2000) claimed that the organization shall respond equally to each stakeholder, when the organization focuses only the external stakeholder may possibly affect a decreased response of internal stakeholders leading to breaking the motivation and commitment of the employees.

For the CSR perspective, Inoue and Lee (2010) claimed the closed relationship between stakeholders and CSR; the organization's ability to identify the needs and <sup>ex</sup>pectations of each stakeholder for the appropriate development of CSR activities contribute to achieved strategies and superior financial performance. That is the firm responds to social and community expectations will lead organization to gain survival through satisfaction of their stakeholders. One of the impetuses of CSR strategy is the growth of stakeholders that involve consumer demands for product and service quality. In addition, Nongovernmental organizations (NGOs) pressure investors causing increased attention to corporate social initiatives (Heslin and Ochoa, 2008). Hence, stakeholder expectation is a key issue to fulfill business ethics in order to develop commitment, trustworthiness and then acceptance through the ethic of organizations



(Pothong and Ussahawanitchakit, 2011). Furthermore, Nurittamont and Ussahawanitchakit (2010) stated that customer behaviors such as the decision making to purchase or boycott the business depends on ethical, social, and the environmental friendliness of the firms.

Here, stakeholder expectation indicates that the organization must search and be responsible for stakeholders with regard to the well being of society that may impact customer loyalty efficiency, market participation quality, employee commitment potentiality, environmental change awareness, and social-oriented product development. According to the above reasoning, the hypotheses are formulated below.

Table 16: Results of Regression Analysis for Effects of Governance Vision, Internal Audit Learning, Internal Audit Competency, and Stakeholder Expectation on Each Dimension of Internal Audit Intelligence

Independent Variables	Dependent Variables <sup>a</sup>				
	BIC	IKW	ISF	IEA	IEM
	Model 10 H13a-H16a	Model 11 H13b-H16b	Model 12 H13c-H16c	Model 13 H13d-H16d	Model 14 H13e-H16e
<b>Governance Vision (GV)</b>	0.436*** (0.085)	0.217** (0.094)	0.330*** (0.098)	0.418*** (0.085)	0.459*** (0.080)
<b>Internal Audit Learning (IAL)</b>	0.276*** (0.097)	0.132 (0.107)	-0.007 (0.111)	0.112 (0.096)	0.004 (0.091)
<b>Internal Audit Competency (IAC)</b>	-0.101 (0.129)	-0.097 (0.143)	-0.144 (0.149)	0.053 (0.128)	0.146 (0.121)
<b>Stakeholder Expectation (SE)</b>	0.086 (0.127)	0.470*** (0.140)	0.476*** (0.146)	0.264** (0.126)	0.260** (0.119)
<b>Firm Size (FS)</b>	0.520*** (0.120)	0.390*** (0.133)	0.457*** (0.139)	0.141 (0.120)	0.161 (0.113)
<b>Firm Age (FA)</b>	0.730*** (0.259)	-0.125 (0.285)	0.073 (0.298)	0.206 (0.257)	0.108 (0.243)
<b>Adjusted R<sup>2</sup></b>	0.571	0.477	0.430	0.576	0.620
<b>Maximum VIF</b>	4.855	4.855	4.855	4.855	4.855

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , <sup>a</sup> Bata coefficients with standard errors in parenthesis





Additionally, firm size has a significant positive impact on best internal audit concept ( $\beta_{51} = 0.520, p < 0.01$ ), internal audit knowledge well-roundedness ( $\beta_{57} = 0.390, p < 0.01$ ), and internal audit skepticism focus ( $\beta_{63} = 0.457, p < 0.01$ ), but has not a significant effect on internal audit ethics awareness ( $\beta_{69} = 0.141, p > 0.10$ ) and internal audit excellence mindset ( $\beta_{75} = 0.161, p > 0.10$ ). It implies that firm size impact on best internal audit concept, internal audit knowledge well-roundedness, and internal audit skepticism focus, but does not impact on internal audit ethics awareness and internal audit excellence mindset.

In addition, firm age has a significant positive effect on best internal audit concept ( $\beta_{52} = 0.730, p < 0.01$ ), but has not a significant effect on internal audit knowledge well-roundedness ( $\beta_{58} = -0.125, p > 0.10$ ), internal audit skepticism focus ( $\beta_{64} = 0.073, p > 0.10$ ), internal audit ethics awareness ( $\beta_{70} = 0.206, p > 0.10$ ), and internal audit excellence mindset ( $\beta_{76} = 0.108, p > 0.10$ ). It implies that firm age impact on best internal audit concept, but does not impact on internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset.

#### The Impacts of Governance Vision, Internal Audit Learning, Internal Audit Competency, and Stakeholder Expectation on Each Dimension of Internal Audit Intelligence and Moderating Role of Internal Audit Experience

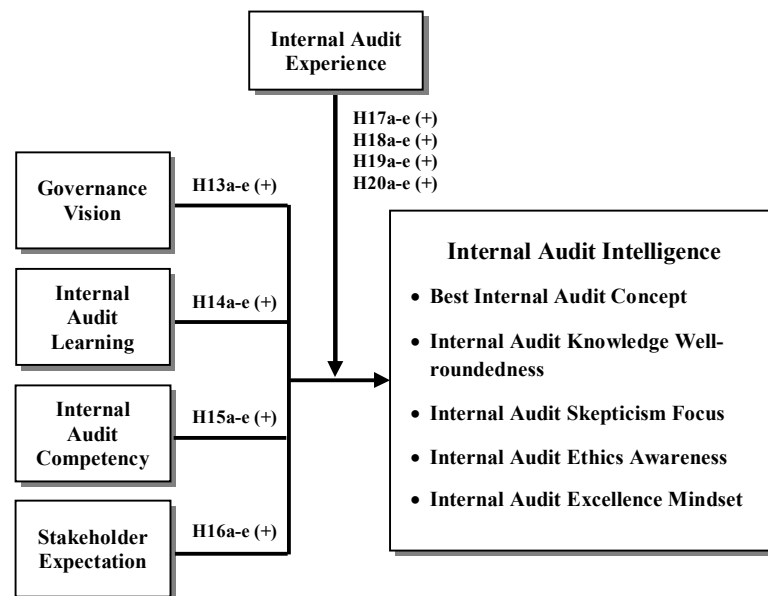
This is a part to analyze the moderating effect of internal audit experience on the relationships among governance vision, internal audit learning, internal audit competency, stakeholder expectation, and each dimension of internal audit intelligence. Figure 8 shows the relationships among four antecedents and five dimensions of internal audit intelligence via the moderating role of internal audit experience, which are based on Hypotheses 17(a-e) – 20(a-e).

This research proposes that internal audit experience has a positive moderate effect on the relationships among governance vision, internal audit learning, internal audit competency, stakeholder expectation, and each dimension of internal audit intelligence (including best internal audit concept, internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset). These hypotheses are analyzed by the regression equation in Models 15 – 19 according to Chapter 3. The results of the OLS regression



analysis are demonstrated in Table 18 as shown below that shows the scale of adjusted  $R^2$  range from 0.440 to 0.623.

Figure 8: The Effect of Governance Vision, Internal Audit Learning, Internal Audit Competency, and Stakeholder Expectation on Each Dimension of Internal Audit Intelligence and Moderating Role of Internal Audit Experience



The correlations among governance vision, internal audit learning, internal audit competency, stakeholder expectation, internal audit experience, and five dimensions of internal audit intelligence are demonstrated in Table 17. The results show that the correlation between stakeholder expectation and internal audit competency ( $r = 0.876$ ,  $p < 0.01$ ) is the highest, while the correlation between internal audit experience and internal audit knowledge well-roundedness ( $r = 0.468$ ,  $p < 0.01$ ) is the lowest. As a result of governance vision, internal audit learning, internal audit competency, stakeholder expectation, and internal audit experience are significantly and positively correlated to each dimension of internal audit intelligence. However, most of these correlations are less than 0.90 as recommended by Hair et al. (2010). As a result, the multicollinearity problems should not be a concern in this research.

With regard to potential problems relating to multicollinearity, variance inflation factors (VIFs) are used to test for inter-correlations among governance vision,



internal audit learning, internal audit competency, stakeholder expectation, and internal audit experience. In this case, the maximum value of variance inflation factor (VIF) is 6.637 as shown in Table 18, which is well below the cut-off value of 10 (Hair et al., 2010), meaning governance vision, internal audit learning, internal audit competency, stakeholder expectation, and internal audit experience are not correlated with each other. Hence, there are no significant multicollinearity problems confronted in this research.

Table 17: Descriptive Statistics and Correlation Matrix of Effects of Governance Vision, Internal Audit Learning, Internal Audit Competency, and Stakeholder Expectation on Each Dimension of Internal Audit Intelligence and Moderating Role of Internal Audit Experience

Variables	BIC	IKW	ISF	IEA	IEM	GV	IAL	IAC	SE	IAE	FA	FS
Mean	4.329	4.123	4.053	4.273	4.164	4.337	4.168	4.109	4.087	4.430	N/A	N/A
S.D.	0.500	0.532	0.560	0.517	0.581	0.544	0.559	0.520	0.597	0.549	N/A	N/A
BIC	1.00											
IKW	.631**	1.00										
ISF	.574**	.775**	1.00									
IEA	.649**	.685**	.717**	1.00								
IEM	.628**	.698**	.743**	.814**	1.00							
GV	.655**	.577**	.573**	.709**	.736**	1.00						
IAL	.636**	.585**	.503**	.644**	.628**	.681**	1.00					
IAC	.499**	.580**	.515**	.649**	.688**	.651**	.726**	1.00				
SE	.507**	.636**	.578**	.667**	.694**	.640**	.713**	.876**	1.00			
IAE	.616**	.468**	.560**	.588**	.638**	.625**	.546**	.604**	.660**	1.00		
FA	.204**	.011**	.042**	.072**	.039**	-.009	.104	.018	.049	-.015	1.00	
FS	.392**	.290**	.307**	.197*	.202*	.162	.217*	.141	.095	.149	.035	1.00

\*  $p < 0.05$ , \*\*  $p < 0.01$

The results of the regression analysis of the moderating effect of internal audit experience on the relationship among governance vision, internal audit learning, internal audit competency, stakeholder expectation, and five dimension of internal audit intelligence as aforementioned in Hypotheses 17(a-e) – 20(a-e) are presented in Table 18. The results show that internal audit experience has no significant impact on the



relationships among governance vision, best internal audit concept, internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset ( $\beta_{82} = -0.089, p > 0.10; \beta_{93} = -0.047, p > 0.10; \beta_{104} = -0.082, p > 0.10; \beta_{115} = -0.051, p > 0.10; \beta_{126} = 0.095, p > 0.10$ ).

Table 18: Results of Regression Analysis for Effects of Governance Vision, Internal Audit Learning, Internal Audit Competency, and Stakeholder Expectation on Each Dimension of Internal Audit Intelligence and Moderating Role of Internal Audit Experience

Independent Variables	Dependent Variables <sup>a</sup>				
	BIC	IKW	ISF	IEA	IEM
	Model 15 H17a-H20a	Model 16 H17b-H20b	Model 17 H17c-H20c	Model 18 H17d-H20d	Model 19 H17e-H20e
<b>Governance Vision (GV)</b>	0.293*** (0.087)	0.229** (0.103)	0.257** (0.105)	0.397*** (0.092)	0.400*** (0.086)
<b>Internal Audit Learning (IAL)</b>	0.284*** (0.095)	0.112 (0.113)	-0.029 (0.115)	0.084 (0.101)	0.027 (0.094)
<b>Internal Audit Competency (IAC)</b>	-0.111 (0.123)	-0.096 (0.146)	-0.139 (0.149)	0.072 (0.131)	0.146 (0.122)
<b>Stakeholder Expectation (SE)</b>	-0.044 (0.126)	0.496*** (0.149)	0.390** (0.153)	0.209 (0.134)	0.189 (0.125)
<b>Internal Audit Experience (IAE)</b>	0.341*** (0.082)	-0.010 (0.098)	0.244** (0.100)	0.113 (0.088)	0.141* (0.082)
<b>GV * IAE</b>	-0.089 (0.092)	-0.047 (0.109)	-0.082 (0.111)	-0.051 (0.098)	0.095 (0.091)
<b>IAL * IAE</b>	-0.098 (0.101)	0.039 (0.120)	0.039 (0.122)	0.105 (0.107)	-0.076 (0.100)
<b>IAC * IAE</b>	-0.032 (0.106)	-0.076 (0.126)	-0.048 (0.129)	-0.034 (0.113)	-0.044 (0.106)
<b>SE * IAE</b>	0.172 (0.122)	0.138 (0.145)	0.162 (0.148)	0.011 (0.130)	0.004 (0.121)
<b>Firm Size (FS)</b>	0.439*** (0.117)	0.394*** (0.139)	0.427*** (0.142)	0.136 (0.125)	0.153 (0.116)
<b>Firm Age (FA)</b>	0.772*** (0.247)	-0.190 (0.293)	0.027 (0.299)	0.184 (0.263)	0.170 (0.245)
<b>Adjusted R<sup>2</sup></b>	0.620	0.464	0.440	0.568	0.623
<b>Maximum VIF</b>	6.637	6.637	6.637	6.637	6.637

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ , <sup>a</sup> Bata coefficients with standard errors in parenthesis



Likewise, the moderating role of internal audit experience on the relationships among internal audit learning, best internal audit concept, internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset are not significant ( $\beta_{83} = -0.098, p > 0.10$ ;  $\beta_{94} = 0.039, p > 0.10$ ;  $\beta_{105} = 0.039, p > 0.10$ ;  $\beta_{116} = 0.105, p > 0.10$ ;  $\beta_{127} = -0.076, p > 0.10$ ). **Therefore, Hypotheses 18a – 18e are not supported.**

Internal audit experience is a moderator of firm specific factors. This research deals with the relationships between four antecedents and five dimensions of internal audit intelligence effectiveness. Commonly, specific knowledge and skills are necessary for market success of the firm. Majocchi, Bacchiocchi and Mayrhofer (2005) suggested that the gain of experience can reduce uncertainty and increase trust in foreign markets. Moreover, better knowledge from the accumulation of experiences supports opportunities to enter the new market both domestically and internationally.

In terms of experience, there are two types 1) geographical experience which focuses on market context including culture and environment and 2) industry experience which focuses on the firm's familiarity with products, customers and suppliers. Cho and Padmanabhan, (2005) suggested that firm experience levels encourage relationships between cultural distance and foreign ownership modes. They proposed three groups for measuring firm experience as the following: 1) business experience is general experience concerning doing business internationally, 2) specific experience is the host country's experience concerning culture and rules, and 3) decision experience concerns strategy choice decisions, and its potential of organizational experience for the superior establishment of foreign entry mode.

Internal audit experience refers to the increasing knowledge about market environment, clients, and suppliers through years of existence in the firm. At least two years experience is an arena of better knowledge, as experience helps managers create and select best strategy choices appropriate to the firms. Based on the research results of Majocchi, Bacchiocchi and Mayrhofer (2005) two years experience might be related to market success that can enhance market shares. The results from previous research in organizational experience stimulate factors to increase value in developing economies (Fan, Ng and Wong, 2011), including generating new opportunities for marketing growth (Majocchi, Bacchiocchi and Mayrhofer, 2005). The increase of knowledge,



skills, and experience are the competencies of the firms that leading to a competitive advantage. In addition, the organization uses experience to promote a network and relationships with other firms that contribute to credibility and commitment. Therefore, a high level of experience will lead to overall effectiveness (Patanakul and Milosevic, 2008). However, Cho and Padmanabhan (2005) found that the organizational experience must be market context congruence and can apply to new strategies in order to gain business success. Furthermore, the industry characteristics and communication technology are the key roles supporting effective internal audit experience (Cramer, 2005).

One of the internal audit experiences views learning curves as experience that can describe the association between production experience and organizational improvement. Production experience is an outcome of organizational learning and a cumulative number of units produced. In addition, Boone and Ganeshan (2001) found that internal audit experience (learning curves) as a moderator in service industry Simulates network quality. Based on the earlier discussion, internal audit experience is a potential factor to increase organizational strategies.

Moreover, the results show that internal audit competency has no significant impact on best internal audit concept, internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset with the moderating role of internal audit experience ( $\beta_{84} = -0.032, p > 0.10$ ;  $\beta_{95} = -0.076, p > 0.10$ ;  $\beta_{106} = -0.048, p > 0.10$ ;  $\beta_{117} = -0.034, p > 0.10$ ;  $\beta_{128} = -0.044, p > 0.10$ ).

Furthermore, the results show that stakeholder expectation has no significant impact on best internal audit concept, internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset with the moderating role of internal audit experience ( $\beta_{85} = 0.172, p > 0.10$ ;  $\beta_{96} = 0.138, p > 0.10$ ;  $\beta_{107} = 0.162, p > 0.10$ ;  $\beta_{118} = 0.011, p > 0.10$ ;  $\beta_{129} = 0.004, p > 0.10$ ). **Thus, Hypotheses 20a – 20e are not supported.**

In the 21<sup>st</sup> century, the stream of corporate social responsibility increases truly global ideas. The shifting global economy, social changes, and demands are more important impacts on the organization which adopts CSR strategy considerations because CSR as the tools to cope with economic crises (Durmaz, Ates and Duman,



2011) can increase the likelihood of robust trust that leads to expectation from stakeholders (Werther and Chandler, 2005).

Literature reviews revealed many aspects of stakeholder expectation. Prasertsang and Ussahawanitchakit (2011) claimed that stakeholder expectation refers to recognition, credibility and trust from stakeholders on company activities such as compensation justice, environmental workplace, and the transparency of management. Moreover, stakeholder expectation involves organizations capable of honesty, integrity and trustworthiness about the quality of a disclosed environmental information (Mors et al., 2010). In the context of social responsibility, stakeholder expectation refers to the credibility, reliability and trust from the stakeholders which without bias, it seems organizational outcomes cause transparency of management, fairness and society, and environmental considerations.

However, trust is a foundation which contributes to acceptance. In the food industry trust as a key aspect is based on share value. If consumers perceive the quality of product/service development, the reduce risk and naturalness influences organizational reputation, trust, and acceptance. Furthermore, Prachriphum and Ussahawanitchakit (2009) suggested that the reliability and acceptability from the public such as shareholders, employees, and customers without bias and error to companies are important to stakeholder credibility. In the same way, the perception of consumers, stakeholders or the public about the organization's operations such as fairness, environmental protection, and consumer preferences leads to improved acceptance (Todt, 2011). Finally, Prasertsang and Ussahawanitchakit (2011) found that the customers perception of business activities for society and environmental considerations can establish customer satisfaction, trust, and reliability which is linked to ultimate corporate success. In conclusion, CSR strategy and stakeholders are closely associated when companies focus on a fair process of producing service quality and social care that affects stakeholder expectation.

For the control variables, firm size has a significant positive impact on best internal audit concept ( $\beta_{86} = 0.439, p < 0.01$ ), internal audit knowledge well-roundedness ( $\beta_{97} = 0.394, p < 0.01$ ), and internal audit skepticism focus ( $\beta_{108} = 0.427, p < 0.01$ ), but has no significant impact on internal audit ethics awareness ( $\beta_{119} = 0.136, p > 0.10$ ), and internal audit excellence mindset ( $\beta_{130} = 0.153, p > 0.10$ ), meaning that firm size impact



on best internal audit concept, internal audit knowledge well-roundedness, and internal audit skepticism focus, but does not impact on internal audit ethics awareness and internal audit excellence mindset.

In addition, firm age has a significant positive effect on best internal audit concept ( $\beta_{87} = 0.772, p < 0.01$ ), but has not a significant effect on internal audit knowledge well-roundedness ( $\beta_{98} = -0.190, p > 0.10$ ), internal audit skepticism focus ( $\beta_{109} = 0.027, p > 0.10$ ), internal audit ethics awareness ( $\beta_{120} = 0.184, p > 0.10$ ), and internal audit excellence mindset ( $\beta_{131} = 0.170, p > 0.10$ ), meaning that that firm age impact on best internal audit concept, but does not impact on internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset.

## Summary

In conclusion, this chapter presents the results of the multiple regression analysis which provide the understanding of the relationship between internal audit intelligence and firm success. According to twenty hypotheses in Chapter 2, the result of the OLS regression analysis indicates that there are seven fully supported hypotheses (H5, 6, 8, 9, 10, 12, and 13), four partially supported hypotheses (H2, 4, 14, and 16), and nine non-supported hypotheses (H1, 3, 7, 11, 15, 17, 18, 19, and 20).

This finding provides an insight in the relationship between internal audit intelligence and firm success by drawing on the empirical evidence from Thai-listed firms in Thailand. These results clearly indicate that internal audit intelligence (including best internal audit concept, internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset) has an importance for the firms in order to gain superior firm success both directly indirectly.

This research finds that three in five dimensions of internal audit intelligence (including internal audit knowledge well-roundedness, internal audit ethics awareness, and internal audit excellence mindset) have a positive effect on firm success via best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, internal audit quality, decision making value, and organizational goal





achievement. Importantly, best internal audit practice and internal audit review efficiency have a positive influence on internal audit quality. Moreover, internal audit quality has a positive influence on decision making value, organizational goal achievement, and firm success. In addition, organizational goal achievement ultimately has a positive influence on firm success.

Additionally, this finding provides an empirical evidence for better understanding of four antecedents of internal audit intelligence. Internal audit intelligence has been encouraged by governance vision, internal audit learning, and stakeholder expectation as a whole.

Furthermore, this research also includes internal audit experience as a moderator on the relationships among governance vision, internal audit learning, internal audit competency, stakeholder expectation, and five dimensions of internal audit intelligence. Interestingly, internal audit experience has no a moderate effect on the relationships among four antecedents and five dimensions of internal audit intelligence. Finally, firm size and firm age have a significant positive impact on internal audit intelligence, which firm size has a significant positive influence on three dimensions of internal audit intelligence (including best internal audit concept, internal audit knowledge well-roundedness, and internal audit skepticism focus), while firm age has a significant positive impact on best internal audit concept.

Consequently, the summary of the results of hypothesis testing is demonstrated in Table 19 as shown below. The next chapter will conclude this research and explain the theoretical and managerial contributions, limitations, and useful suggestions for further research.



Table 19: The Summary of Results of Hypothesis Testing

<b>Hypothesis</b>	<b>Description of Hypothesized Relationships</b>	<b>Results</b>
H1a	The higher the best internal audit concept is, the more likely that firms will gain greater best internal audit practice.	Not Supported
H1b	The higher the best internal audit concept is, the more likely that firms will gain greater internal audit planning effectiveness.	Not Supported
H1c	The higher the best internal audit concept is, the more likely that firms will gain greater internal audit review efficiency.	Not Supported
H1d	The higher the best internal audit concept is, the more likely that firms will gain greater firm success.	Not Supported
H2a	The higher the internal audit knowledge well-roundedness is, the more likely that firms will gain greater best internal audit practice.	Supported
H2b	The higher the internal audit knowledge well-roundedness is, the more likely that firms will gain greater internal audit planning effectiveness.	Supported
H2c	The higher the internal audit knowledge well-roundedness is, the more likely that firms will gain greater internal audit review efficiency.	Supported
H2d	The higher the internal audit knowledge well-roundedness is, the more likely that firms will gain greater firm success.	Not Supported
H3a	The higher the internal audit skepticism focus is, the more likely that firms will gain greater best internal audit practice.	Not Supported
H3b	The higher the internal audit skepticism focus is, the more likely that firms will gain greater internal audit planning effectiveness.	Not Supported
H3c	The higher the internal audit skepticism focus is, the more likely that firms will gain greater internal audit review efficiency.	Not Supported



Table 19: The Summary of Results of Hypothesis Testing (Continued)

<b>Hypothesis</b>	<b>Description of Hypothesized Relationships</b>	<b>Results</b>
H3d	The higher the internal audit skepticism focus is, the more likely that firms will gain greater firm success.	Not Supported
H4a	The higher the internal audit ethics awareness is, the more likely that firms will gain greater best internal audit practice.	Not Supported
H4b	The higher the internal audit ethics awareness is, the more likely that firms will gain greater internal audit planning effectiveness.	Not Supported
H4c	The higher the internal audit ethics awareness is, the more likely that firms will gain greater internal audit review efficiency.	Supported
H4d	The higher the internal audit ethics awareness is, the more likely that firms will gain greater firm success.	Not Supported
H5a	The higher the internal audit excellence mindset is, the more likely that firms will gain greater best internal audit practice.	Supported
H5b	The higher the internal audit excellence mindset is, the more likely that firms will gain greater internal audit planning effectiveness.	Supported
H5c	The higher the internal audit excellence mindset is, the more likely that firms will gain greater internal audit review efficiency.	Supported
H5d	The higher the internal audit excellence mindset is, the more likely that firms will gain greater firm success.	Supported
H6	The higher the best internal audit practice is, the more likely that firms will gain greater internal audit quality.	Supported
H7	The higher the internal audit planning effectiveness is, the more likely that firms will gain greater internal audit quality.	Not Supported
H8	The higher the internal audit review efficiency is, the more likely that firms will gain greater internal audit quality.	Supported



Table 19: The Summary of Results of Hypothesis Testing (Continued)

<b>Hypothesis</b>	<b>Description of Hypothesized Relationships</b>	<b>Results</b>
H9a	The higher the internal audit quality is, the more likely that firms will gain greater decision making value.	Supported
H9b	The higher the internal audit quality is, the more likely that firms will gain greater organizational goal achievement.	Supported
H10	The higher the internal audit quality is, the more likely that firms will gain greater firm success.	Supported
H11	The higher the decision making value is, the more likely that firms will gain greater firm success.	Not Supported
H12	The higher the organizational goal achievement is, the more likely that firms will gain greater firm success.	Supported
H13a	The higher the governance vision is, the more likely that firms will gain greater best internal audit concept.	Supported
H13b	The higher the governance vision is, the more likely that firms will gain greater internal audit knowledge well-roundedness.	Supported
H13c	The higher the governance vision is, the more likely that firms will gain greater internal audit skepticism focus.	Supported
H13d	The higher the governance vision is, the more likely that firms will gain greater internal audit ethics awareness.	Supported
H13e	The higher the governance vision is, the more likely that firms will gain greater internal audit excellence mindset.	Supported
H14a	The higher the internal audit learning is, the more likely that firms will gain greater best internal audit concept.	Supported
H14b	The higher the internal audit learning is, the more likely that firms will gain greater internal audit knowledge well-roundedness.	Not Supported
H14c	The higher the internal audit learning is, the more likely that firms will gain greater internal audit skepticism focus.	Not Supported



Table 19: The Summary of Results of Hypothesis Testing (Continued)

<b>Hypothesis</b>	<b>Description of Hypothesized Relationships</b>	<b>Results</b>
H14d	The higher the internal audit learning is, the more likely that firms will gain greater internal audit ethics awareness.	Not Supported
H14e	The higher the internal audit learning is, the more likely that firms will gain greater internal audit excellence mindset.	Not Supported
H15a	The higher the internal audit competency is, the more likely that firms will gain greater best internal audit concept.	Not Supported
H15b	The higher the internal audit competency is, the more likely that firms will gain greater internal audit knowledge well-roundedness.	Not Supported
H15c	The higher the internal audit competency is, the more likely that firms will gain greater internal audit skepticism focus.	Not Supported
H15d	The higher the internal audit competency is, the more likely that firms will gain greater internal audit ethics awareness.	Not Supported
H15e	The higher the internal audit competency is, the more likely that firms will gain greater internal audit excellence mindset.	Not Supported
H16a	The higher the stakeholder expectation is, the more likely that firms will gain greater best internal audit concept.	Not Supported
H16b	The higher the stakeholder expectation is, the more likely that firms will gain greater internal audit knowledge well-roundedness.	Supported
H16c	The higher the stakeholder expectation is, the more likely that firms will gain greater internal audit skepticism focus.	Supported
H16d	The higher the stakeholder expectation is, the more likely that firms will gain greater internal audit ethics awareness.	Supported
H16e	The higher the stakeholder expectation is, the more likely that firms will gain greater internal audit excellence mindset.	Supported
H17a	Internal audit experience positively moderates the relationship between governance vision and best internal audit concept.	Not Supported



Table 19: The Summary of Results of Hypothesis Testing (Continued)

<b>Hypothesis</b>	<b>Description of Hypothesized Relationships</b>	<b>Results</b>
H17b	Internal audit experience positively moderates the relationship between governance vision and internal audit knowledge well-roundedness.	Not Supported
H17c	Internal audit experience positively moderates the relationship between governance vision and internal audit skepticism focus.	Not Supported
H17d	Internal audit experience positively moderates the relationship between governance vision and internal audit ethics awareness.	Not Supported
H17e	Internal audit experience positively moderates the relationship between governance vision and internal audit excellence mindset.	Not Supported
H18a	Internal audit experience positively moderates the relationship between internal audit learning and best internal audit concept.	Not Supported
H18b	Internal audit experience positively moderates the relationship between internal audit learning and internal audit knowledge well-roundedness.	Not Supported
H18c	Internal audit experience positively moderates the relationship between internal audit learning and internal audit skepticism focus.	Not Supported
H18d	Internal audit experience positively moderates the relationship between internal audit learning and internal audit ethics awareness.	Not Supported
H18e	Internal audit experience positively moderates the relationship between internal audit learning and internal audit excellence mindset.	Not Supported
H19a	Internal audit experience positively moderates the relationship between internal audit competency and best internal audit concept.	Not Supported



Table 19: The Summary of Results of Hypothesis Testing (Continued)

<b>Hypothesis</b>	<b>Description of Hypothesized Relationships</b>	<b>Results</b>
H19b	Internal audit experience positively moderates the relationship between internal audit competency and internal audit knowledge well-roundedness.	Not Supported
H19c	Internal audit experience positively moderates the relationship between internal audit competency and internal audit skepticism focus.	Not Supported
H19d	Internal audit experience positively moderates the relationship between internal audit competency and internal audit ethics awareness.	Not Supported
H19e	Internal audit experience positively moderates the relationship between internal audit competency and internal audit excellence mindset.	Not Supported
H20a	Internal audit experience positively moderates the relationship between stakeholder expectation and best internal audit concept.	Not Supported
H20b	Internal audit experience positively moderates the relationship between stakeholder expectation and internal audit knowledge well-roundedness.	Not Supported
H20c	Internal audit experience positively moderates the relationship between stakeholder expectation and internal audit skepticism focus.	Not Supported
H20d	Internal audit experience positively moderates the relationship between stakeholder expectation and internal audit ethics awareness.	Not Supported
H20e	Internal audit experience positively moderates the relationship between stakeholder expectation and internal audit excellence mindset.	Not Supported



## CHAPTER V

### CONCLUSION

The previous chapter described the respondents' characteristics and the descriptive statistics. Moreover, the results of hypotheses testing are also revealed in the prior chapter as well. Therefore, this chapter details the conclusion and explains the contributions, limitations, and useful suggestions for further research.

This research investigates the influences of internal audit intelligence on firm success of Thai-listed firms in Thailand. Moreover, the effects of each dimension of internal audit intelligence (including best internal audit concept, internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset) on best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, internal audit quality, decision making value, organizational goal achievement, and firm success are investigated. Furthermore, the relationships among best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, internal audit quality, decision making value, organizational goal achievement, and firm success are examined. Additionally, governance vision, internal audit learning, internal audit competency, and stakeholder expectation are assumed to become the antecedents of internal audit intelligence. Finally, internal audit experience is assumed to be a moderator on the relationships among governance vision, internal audit learning, internal audit competency, stakeholder expectation, and each dimension of internal audit intelligence.

The key research question of this research is how does internal audit intelligence has an effect on firm success. Furthermore, the specific research questions are as follows: (1) How does each dimension of internal audit intelligence influence best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, internal audit quality, decision making value, organizational goal achievement, and firm success? (2) How do best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, internal audit quality, decision making value, and organizational goal achievement affect firm success? (3) How do governance vision, internal audit learning, internal audit competency, and stakeholder expectation





affect each dimension of internal audit intelligence? and finally (4) How does internal audit experience moderate the relationships among governance vision, internal audit learning, internal audit competency, stakeholder expectation, and each dimension of internal audit intelligence?

In this research, three theoretical perspectives are integrated to draw the conceptual framework, namely, the knowledge-based view of the firm, the institutional theory, and the contingency theory. Firstly, the knowledge-based view of the firm is applied to explain the dimensions of internal audit intelligence and the consequences of its relationships. Secondly, the institutional theory is used to explain the relationship between the antecedents and internal audit intelligence. Finally, the contingency theory describes the moderating effect of internal audit experience that influence the relationships among four antecedents and each dimension of internal audit intelligence. Moreover, this research proposes the theory interaction to explain the relationships of each variable and to answer the research questions and the research objectives.

With respect to the research objectives and the research questions, there are many variables in this research. Internal audit intelligence is the independent variable and it is measured by five dimensions consisting of best internal audit concept, internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset. Internal audit intelligence is hypothesized to be positively associated with best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, internal audit quality, decision making value, organizational goal achievement, and firm success. Within the relationships, firm success is the dependent variable of the research. Moreover, governance vision, internal audit learning, internal audit competency, and stakeholder expectation are assigned as the antecedents of internal audit intelligence. Besides, internal audit experience is determined as a moderating variable on the relationships among four antecedents and each dimension of internal audit intelligence.

This research selects internal audit directors or internal audit managers of Thai-listed firms as the key informant because internal audit director defines the scope of the audit work that is practical; thus, internal audit director have knowledge and experience to give actual information, and have a true understanding of its practices, and can also give more relevant information or comments. The sample of this research is chosen



from the Stock Exchange of Thailand (SET) on its website ([www.set.or.th](http://www.set.or.th)). As a result, the questionnaires are directly distributed to 518 Thai-listed firms. Finally, the successful questionnaire mailings are 515 surveys, from which 126 responses are returned and usable for hypotheses testing by multiple regression analysis.

The overall results reveal that three dimensions of internal audit intelligence have an influence on internal audit intelligence outcomes. Firstly, internal audit knowledge well-roundedness has an influence on best internal audit practice, internal audit planning effectiveness, and internal audit review efficiency. Secondly, internal audit ethics awareness has an impact on internal audit review efficiency. Finally, internal audit excellence mindset has an influence on best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, and firm success.

Additionally, best internal audit practice and internal audit review efficiency have an influence on internal audit quality. Furthermore, internal audit quality has an impact on decision making value, organizational goal achievement, and firm success, and ultimately organizational goal achievement has an influence on firm success.

For the influence of the antecedents, the findings reveal that governance vision has an influence on all five dimensions of internal audit intelligence (consisting of best internal audit concept, internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset). In addition, internal audit learning has an influence on best internal audit concept. Furthermore, stakeholder expectation has an influence on internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset.

Regarding the moderating effect examination, the findings indicate that internal audit experience has no a significant moderate effect on the relationships among governance vision, internal audit learning, internal audit competency, stakeholder expectation, and each dimension of internal audit intelligence.

Furthermore, for two control variables – firm size and firm age, the results indicate that firm size and firm age have a significant positive impact on internal audit intelligence, which firm size has a positive influence on three dimensions of internal audit intelligence (including best internal audit concept, internal audit knowledge well-roundedness, and internal audit skepticism focus), while firm age has a positive impact on best internal audit concept.



In summary, the key research question is supported by the empirical evidence. Moreover, the specific research questions are supported and partially supported as well. However, the summary of all research questions and the results is exhibited in Table 20 as shown below.

Table 20: The Summary of Results in All Hypotheses Testing

Research Questions	Hypothesis	Results	Conclusion
(1) How does each dimension of internal audit intelligence influence best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, internal audit quality, decision making value, organizational goal achievement, and firm success?	H1a-d H2a-d H3a-d H4a-d H5a-d	<ul style="list-style-type: none"> <li>- Best internal audit concept has no significant influence on best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, and firm success.</li> <li>- Internal audit knowledge well-roundedness has a positive influence on best internal audit practice, internal audit planning effectiveness, and internal audit review efficiency.</li> <li>- Internal audit skepticism focus has no significant influence on best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, and firm success.</li> <li>- Internal audit ethics awareness has a positive influence on internal audit review efficiency.</li> <li>- Internal audit excellence mindset has a positive influence on best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, and firm success.</li> </ul>	Partially Supported



Table 20: The Summary of Results in All Hypotheses Testing (Continued)

Research Questions	Hypothesis	Results	Conclusion
(2) How do best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, internal audit quality, decision making value, and organizational goal achievement affect firm success?	H6, H7, H8, H9a-b, H10, H11, H12	<ul style="list-style-type: none"> <li>- Best internal audit practice and internal audit review efficiency have a positive influence on internal audit quality.</li> <li>- Internal audit quality has a positive influence on decision making value, organizational goal achievement, and firm success.</li> <li>- Organizational goal achievement has a positive influence on firm success.</li> </ul>	Partially Supported
(3) How do governance vision, internal audit learning, internal audit competency, and stakeholder expectation affect each dimension of internal audit intelligence?	H13a-e H14a-e H15a-e H16a-e	<ul style="list-style-type: none"> <li>- Governance vision has a positive influence on best internal audit concept, internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset.</li> <li>- Internal audit learning has a positive influence on best internal audit concept.</li> <li>- Internal audit competency has no significant influence on each dimension of internal audit intelligence.</li> <li>- Stakeholder expectation has a positive influence on internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset.</li> </ul>	Partially Supported



Table 20: The Summary of Results in All Hypotheses Testing (Continued)

Research Questions	Hypothesis	Results	Conclusion
(4) How does internal audit experience moderate the relationships among governance vision, internal audit learning, internal audit competency, stakeholder expectation, and each dimension of internal audit intelligence?	H17a-e H18a-e H19a-e H20a-e	<ul style="list-style-type: none"> <li>- Internal audit experience has no significant positive moderate effect on the relationship between governance vision and each dimension of internal audit intelligence.</li> <li>- Internal audit experience has no significant positive moderate effect on the relationship between internal audit learning and each dimension of internal audit intelligence.</li> <li>- Internal audit experience has no significant positive moderate effect on the relationship between internal audit competency and each dimension of internal audit intelligence.</li> <li>- Internal audit experience has no significant positive moderate effect on the relationship between stakeholder expectation and each dimension of internal audit intelligence.</li> </ul>	Not Supported

## Contributions

### Theoretical Contribution

The theoretical contributions provide an important expansion on the previous knowledge and the relevant literature of the internal audit intelligence. Moreover, this research provides a clear understanding of the relationships between internal audit intelligence and firm success of Thai-listed firms in Thailand via best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, internal audit quality, decision making value, and organizational goal achievement that influence these relationships. Furthermore, this research determines governance vision, internal



audit learning, internal audit competency, and stakeholder expectation as the antecedents of internal audit intelligence. Moreover, this research also provides an understanding of the moderating effect of internal audit experience on the relationships among four antecedents and each dimension of internal audit intelligence. Additionally, the theoretical contribution is the new dimension of internal audit intelligence which has creation and empirically testing with the antecedents and the consequential constructs which only a few research studies in the audit and management accounting discipline have focused on.

The results of this research help to confirm the usefulness of the knowledge-based view of the firm, the institutional theory, and the contingency theory in explaining both the antecedents and the consequences of internal audit intelligence. The knowledge-based view of the firm explains the rational linkage and matches up five dimensions of internal audit intelligence, namely best internal audit concept, internal audit knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset. In particular, three important dimensions of internal audit intelligence are internal audit knowledge well-roundedness, internal audit ethics awareness, and internal audit excellence mindset. They are important dimensions that can establish best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, and firm success. Because internal audit intelligence considers knowledge as the most important asset in the firm's strategy, it is often difficult to imitate and complex of knowledge, and is among the companies that are the key factors of a sustainable competitive advantage leading to goal achievement.

Furthermore, the institutional theory states that firms focusing on improving the internal audit practices to appropriate with operational activities can enhance the usefulness of internal audit intelligence. Moreover, the results reveal that governance vision, internal audit learning, and stakeholder expectation can enhance internal audit intelligence. These relationships are potentially supported by the institutional theory. In addition, the results of this research cannot confirm the contingency theory because of the results indicate that internal audit experience has no significant positive moderate effect on the relationships among governance vision, internal audit learning, internal



audit competency, stakeholder expectation, and each dimension of internal audit intelligence.

According to the empirical results, the need for further research is apparent because the results are not accordance with the hypotheses concerning some dimensions of internal audit intelligence and its antecedents and consequences, including the moderating variable that have no direct effect or show a different role. They should be investigating for the effects in other roles to fulfill the internal audit literature.

### Managerial Contribution

The research results have managerial implications for practitioners. This research contributes to internal audit intelligence. In particular, firms which have internal audit intelligence are likely to increase the efficiency, value, and achievement goals of the companies (Ali and Owais, 2013). Additionally, this research also helps managers or directors of Thai-listed firms to understand the importance of both the antecedents and the consequences of internal audit intelligence that enables to enhance the firm's goal achievement. A manager should focus on the component of internal audit intelligence, especially internal audit knowledge well-roundedness, internal audit ethics awareness, and internal audit excellence mindset, that they are important to the success of the firm. Furthermore, internal audit intelligence helps lead to important internal audit intelligence outcomes, which are best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, internal audit quality, decision making value, and organizational goal achievement toward firm success. In particular, regarding employee participation, the firm should focus on employees because they are important factors to achieve the objectives and to set goals.

Also interestingly, this research provides a better understanding of how the firm can encourage internal audit intelligence. These findings show that firms should focus on governance vision, internal audit learning, and stakeholder expectation as the factors to support internal audit intelligence. Most especially, firm should concentrate on developing employee learning competency; for instance, firms should actively support training and seminars to increase the existing knowledge and to gain new knowledge in order to improve skills, abilities, and experience of the employees. Additionally, the firm should focus on the policy of corporate governance to ensure clarity and substantiality. As a result, a firm is led to the successful achievement of their goals.



### Institutional Contribution

For professional institutions and relative organizations, this evidence may be useful guidelines. The Securities and Exchange Commission (SEC) should promote and encourage internal audit intelligence in ways that they can get more benefits both for the firm and the stakeholders, such as new internal audit techniques enhancing the effectiveness and efficiency of the internal audit outcomes and firm goals. In addition, the Institute of Internal Auditors (IIA) of Thailand should provide more participation, support and specific, proficiency in the internal audit task. This participation includes consideration of whether an internal control assessment, planning, practice or reporting may enhance the internal audit outcomes, and compliance of the International Standards for the Professional Practice of Internal Auditing. Consequently, it becomes a significant key driver of determining and explaining a firm's goal achievement in the present and future auditing profession. Additionally, governance vision effect on internal audit intelligence which the success of governance vision depends on the participation of institution, board, management, and the internal and external auditor. Therefore, professional institution focuses on governance vision for develop internal audit intelligence in internal audit process.

### **Limitations and Future Research Directions**

#### Limitations

Although the research's results have theoretical and managerial implications for internal audit researchers and practitioners, respectively, some caution should be taken due to the limitations of this research. The sample size of this research has only samples of which the response rate of this research was based on survey research accepted at 24.47% which is considered to be small. As a result, it may affect the analysis of the power of the statistical test so that the results of the hypotheses are also impacted.

#### Future Research Directions

According to the results of this research, some of the research hypotheses are not statistically significant. For example, best internal audit concept and internal audit skepticism focus have not a significant effect on its consequences – best internal audit





practice, internal audit planning effectiveness, internal audit review efficiency, and firm success. As a result, future research needs to re-investigate the research hypotheses that are not statistically significant. The moderating effect of internal audit experience on the relationships among four antecedents and each dimension of internal audit intelligence are insignificant which should consider seeking additional research on other potential moderating variables. Moreover, financial reporting reliability and operational enhancement effectiveness not affect firm success. Future research may re-examine the research because of the time change and the environment may affect the findings. Additionally, the results show that five dimensions of internal audit intelligence have association with some internal audit outcomes. Thus, future research may developing mixed methods designed to observe internal audit intelligence in new dimensions that have an effect on firm success in Thai-listed firms to generate new dimensions of internal audit intelligence.

Moreover, the direction of the effects is negative such as the moderating effects of internal audit experience. As a result, future research needs to reinvestigate the other roles such as the mediator or independent variables. Additionally, future research needs to expand the research contributions and to verify the research generalizability by collecting data from a larger population, and/or comparative populations, or from other auditing professions such as certified public accountants (CPAs), tax auditors (TAs), governmental auditors (GAs), and co-operative auditors (CAs) in Thailand in order to increase the level of reliable results.

## **Summary**

This chapter revealed the effects of internal audit intelligence on firm success of Thai-listed firms in Thailand. The contents involve both theoretical contribution and managerial contribution. Moreover, limitations and future research directions are presented. The conceptual model of internal audit intelligence and firm success of Thai-listed firms in Thailand: an empirical investigation of the antecedents and consequences is supported by the theoretical frameworks including the knowledge-based view of the firm, the institutional theory, and the contingency theory. Internal audit intelligence comprises five dimensions, namely, best internal audit concept, internal audit



knowledge well-roundedness, internal audit skepticism focus, internal audit ethics awareness, and internal audit excellence mindset. Meanwhile, the consequences of internal audit intelligence are composed of best internal audit practice, internal audit planning effectiveness, internal audit review efficiency, internal audit quality, decision making value, organizational goal achievement, and firm success. Furthermore, the factors such as governance vision, internal audit learning, internal audit competency, and stakeholder expectation are also assumed to become the antecedents of the conceptual model. In addition, internal audit experience is the moderator variable in this research model. Finally, Table 20 as shown above concludes the results in all hypotheses testing of this research.



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## **APPENDICES**



**APPENDIX A**  
**The Original Items**



### Original Items in Scales

Constructs	Items
<b>Best Internal Audit Concept (BIC)</b>	
BIC1	The business supports the review of reliability and the completeness of the financial report the performance including the methods used in the diagnosis and evaluation.
BIC2	The business always realizes the report will have the significant impact on the operation. And the report that there has been compliance with policies, procedures, and regulations laid down, including the laws involved.
BIC3	The company focuses on the use of resources efficiently and effectively.
BIC4	The business attends to the review of property preservation and physical property.
<b>Internal Audit Knowledge Well-roundedness (IKW)</b>	
IKW1	The business believes that there is well knowledge and understanding of the internal audit and legal aspects involved.
IKW2	The business realizes the benefits of applying information technology to understand the limitations and the problems that affect the operation of the business.
IKW3	The business encourages the study and understanding of the problems with customers, which may affect the risk of the business.
IKW4	The business attends systematically to the analyzing of the strengths, weaknesses, problems, opportunities, and the affecting of the industry.
<b>Internal Audit Skepticism Focus (ISF)</b>	
ISF1	The business committed to study and understanding about the environment of the practice well as the integration of the internal audit.
ISF2	The business focuses to have the situation assessment uncertainty from internal, external, which may affect the operation continuously.
ISF3	The business values the assessment of strengths and weaknesses systematically and concretely to used for the information in the relevant decision more effectively.
ISF4	The business realizes the evaluation of the internal audit between audit team and the audit committee to monitor the performance even better.
<b>Internal Audit Ethics Awareness (IEA)</b>	
IEA1	The business focuses on the ethical practice of the internal audit in accordance with ethical standards.
IEA2	The business focuses on the application of policies and procedures to maintain the independence and objectivity of the internal audit.
IEA3	The business promotes the internal audit work by maintaining the Code of Conduct of the internal audit profession.
IEA4	The business supports to internal audit work independently without pressure and bias in performance.
<b>Internal Audit Excellence Mindset (IEM)</b>	
IEM1	The business believes that the practice of the internal audit improved their business to be recognized for the quality of financial reporting by stakeholders.



### Original Items in Scales (Continued)

Constructs	Items
IEM2	The business encourages the employees to practice a systematic accounting, and be able to be checked all evidences and clear guidelines.
IEM3	The business believes that the results of the internal audit procedures to reflect actual results of operations are important in many aspects of business operations.
IEM4	The business focuses on the impact analysis to be the basis to improve and develop the practice of internal auditing for best practice.
<b>Best Internal Audit Practice (BIP)</b>	
BIP1	The business can analyze the operating environment audit and understand the environment in the overall performance of the organization to achieve their business strengths and weaknesses in the operation of the business correctly.
BIP2	The business can combine the ability to identify and manage the risks that covers the work carried out by the company to increase the capacity and efficiency of the internal audit.
BIP3	The business has an internal audit plans are clear and cover all activities of the organization.
BIP4	The business can plan coverage, and the useful performance check using the time and resources in the performance monitor effectively. Including interest protection of the stakeholder of the company.
<b>Internal Audit Planning Effectiveness (IPE)</b>	
IPE1	The business has the resources to investigate properly, increase the efficiency and effectiveness in the monitoring well.
IPE2	The business can allocate time, personnel, and tools needed to validate. It must be planned systematically and concisely to achieve maximum efficiency in practice.
IPE3	The business can plan in checking by considering the scope of activities in each activity is necessary and appropriate.
IPE4	The business can develop the knowledge and skills of the internal audit as an important resource to check by increasing the potential in auditing efficiency and effectiveness.
<b>Internal Audit Review Efficiency (IRE)</b>	
IRE1	The business can work as the internal audit, and record the result according to the guidelines continuously and regularly, by having accurate and complete evidences to check.
IRE2	The business can review and evaluate the performance continuously, both from the inside and outside to inspect the efficiency better.
IRE3	The business can review and assess the completeness, sufficient and accurate evidence inspection within in order to make sure to check all the activities of the comprehensive business.
IRE4	The business selects tools or forms to review the performance appropriately, and can design activities by the major risks quickly, including having a quality in taking time and resources.



### Original Items in Scales (Continued)

Constructs	Items
<b>Internal Audit Quality (IAQ)</b>	
IAQ1	The business can achieve the purposes and objectives of internal audit as well.
IAQ2	The business can work by the scope, objectives, and targets effectively.
IAQ3	The business can prevent and reduce the risk of the enterprise efficiently.
IAQ4	The business can prepare financial statements effectively, and it is beneficial to the user data.
<b>Decision Making Value (DMV)</b>	
DMV1	The business can report the internal audit by presenting of important issues and meet needs of those involved in applied in decision correctly.
DMV2	The business can audit reporting within standard in performance audit, which has been accepted and applied in decision making in various issues as credible.
DMV3	The business can report what was found from the inspection and the suggestion to resolve, to improve process operation decision by a higher quality to add value in the decision as well.
DMV4	The business can keep track of the time limit, and meet the needs of those involved in a timely manner.
<b>Organizational Goal Achievement (OGA)</b>	
OGA1	The business has financial and performance stable, and can operate it continuously.
OGA2	The business estimates increased continuously, compared with the performance in the previous year.
OGA3	The business has market share increasing and tend to rise in the long term.
OGA4	The business have the ability and potential to maintain the growth and survive in the business, whether in economic crisis at present and in the future.
<b>Firm Success (FSU)</b>	
FSU1	The business is growing in terms of assets, sales, and profits, according to the target of business efficiency.
FSU2	The business has a market share increased continuously.
FSU3	The business effectively in practice is increasing continuously and can achieve it well.
FSU4	The business has innovation products, quality in service, and standard recognized by consumers.
<b>Governance vision (GV)</b>	
GV1	The business adheres to the administration according to rules by creating added value to the stakeholders, and the responsibility and the society.
GV2	The business focuses on compliance with laws and regulations of various internal and external.
GV3	The business promotes adherence to moral principles, honesty, integrity, sincere in performance on those involved.
GV4	The business focus to have management according to the good governance and strengthen the trust enterprise; acceptance from stakeholders contribute to experience success in the future organization.



### Original Items in Scales (Continued)

Constructs	Items
<b>Internal Audit Learning (IAL)</b>	
IAL1	The business believes that the acquiring knowledge through experiences and continuous training will help enterprises to have the ability to investigate better and shape the organization valuable.
IAL2	The business focuses on participation in the training of personnel, to develop the potential of the internal audit.
IAL3	The business focuses on learning and to understanding the techniques of modern internal audit, in order to ensure more effectively.
IAL4	The business focuses on education and understanding of the changes in the profession, working in time to and professionalism.
<b>Internal Audit Competency (IAC)</b>	
IAC1	The business believes that the internal audit personnel are learning, skills, and abilities in checking well, making the inspection effectiveness continuously.
IAC2	The business focuses on the handbook of internal audit to use as a guideline practices to achieve the efficiency.
IAC3	The business believes that the employees have ability in analyzing the damage properly and successful.
IAC4	The business focuses on the study of the connection of data, and issue involved, resulting in a more efficient operation of internal audit.
<b>Stakeholder Expectation (SE)</b>	
SE1	Investors need to use the information for making a right decision and reliably continued, resulting in various activities to develop potential in reporting news and information with accurate and clear more and more.
SE2	Shareholders expect in return for sustainable operations from the efficient and effective to various parties must strive operating with integrity. Transparent, fair to achieve stability in the long term.
SE3	The business considers the demand and services which constantly changing to meet the various needs of customers, to develop the potential performance higher.
SE4	Partners want to compliance with the conditions or joint trade agreement set strictly, due to the various parties to work effectively, and adhere to the commitments, to ensure equal and fair.
<b>Internal Audit Experience (IAE)</b>	
IAE1	The business focused on the experience of internal audit to strengthen the understanding of the nature of business reports to be used as guidelines for the internal audit.
IAE2	The business focuses on the application of data to evaluate and understand the performance of past, applied in practicing at present, to achieve more effective.
IAE3	The business promotes exchanges ability between the internal audit to maintain the performance goals better.
IAE4	The business supports the performance audit regularly and continuously. The staff's expertise in practice.



## **APPENDIX B**

### **Item Factor Loadings and Reliability Analyses in Pre-Test**



### Item Factor Loadings and Reliability Analyses in Pre-Test

Constructs	Items	Factor Loadings	Reliability (Alpha)
<b>Best Internal Audit Concept (BIC)</b>	BIC1	.795	.840
	BIC2	.844	
	BIC3	.838	
	BIC4	.812	
<b>Internal Audit Knowledge Well-roundedness (IKW)</b>	IKW1	.801	.829
	IKW2	.860	
	IKW3	.809	
	IKW4	.787	
<b>Internal Audit Skepticism Focus (ISF)</b>	ISF1	.786	.862
	ISF2	.892	
	ISF3	.904	
	ISF4	.778	
<b>Internal Audit Ethics Awareness (IEA)</b>	IEA1	.773	.867
	IEA2	.883	
	IEA3	.900	
	IEA4	.832	
<b>Internal Audit Excellence Mindset (IEM)</b>	IEM1	.897	.866
	IEM2	.847	
	IEM3	.885	
	IEM4	.862	
<b>Best Internal Audit Practice (BIP)</b>	BIP1	.788	.843
	BIP2	.844	
	BIP3	.804	
	BIP4	.865	
<b>Internal Audit Planning Effectiveness (IPE)</b>	IPE1	.866	.878
	IPE2	.889	
	IPE3	.862	
	IPE4	.806	
<b>Internal Audit Review Efficiency (IRE)</b>	IRE1	.885	.894
	IRE2	.874	
	IRE3	.928	
	IRE4	.802	
<b>Internal Audit Quality (IAQ)</b>	IAQ1	.884	.890
	IAQ2	.888	
	IAQ3	.860	
	IAQ4	.838	





**Item Factor Loadings and Reliability Analyses in Pre-Test (Continued)**

<b>Constructs</b>	<b>Items</b>	<b>Factor Loadings</b>	<b>Reliability (Alpha)</b>
<b>Decision Making Value (DMV)</b>	DMV1	.876	.866
	DMV2	.893	
	DMV3	.846	
	DMV4	.760	
<b>Organizational Goal Achievement (OGA)</b>	OGA1	.824	.880
	OGA2	.866	
	OGA3	.859	
	OGA4	.883	
<b>Firm Success (FSU)</b>	FSU1	.866	.914
	FSU2	.913	
	FSU3	.950	
	FSU4	.845	
<b>Governance Vision (GV)</b>	GV1	.804	.835
	GV2	.889	
	GV3	.946	
	GV4	.880	
<b>Internal Audit Learning (IAL)</b>	IAL1	.851	.924
	IAL2	.917	
	IAL3	.934	
	IAL4	.908	
<b>Internal Audit Competency (IAC)</b>	IAC1	.779	.840
	IAC2	.794	
	IAC3	.856	
	IAC4	.858	
<b>Stakeholder Expectation (SE)</b>	SE1	.918	.934
	SE2	.902	
	SE3	.909	
	SE4	.928	
<b>Internal Audit Experience (IAE)</b>	IAE1	.925	.915
	IAE2	.909	
	IAE3	.893	
	IAE4	.846	



**APPENDIX C**  
**Test of Non-Response Bias**



## Test of Non-Response Bias

Comparison	N	Mean	S.D.	t	Significant Level*
<b>Type of firm in SET:</b>					
• First Group	63	5.1587	2.37736	.000	1.000
• Second Group	63	5.1587	2.61637	.000	
<b>The period of time in SET:</b>					
• First Group	63	3.2857	.94063	.619	.537
• Second Group	63	3.1746	1.07072	.619	
<b>Time of operating of the firm:</b>					
• First Group	63	3.5238	.91329	-.932	.353
• Second Group	63	3.6667	.80322	-.932	
<b>Capital of the firm:</b>					
• First Group	63	1.9365	1.02977	1.616	.109
• Second Group	63	1.6508	.95307	1.616	
<b>Total assets of the firm:</b>					
• First Group	63	1.9524	1.09881	.818	.415
• Second Group	63	1.7937	1.08000	.818	
<b>Duration of service:</b>					
• First Group	63	2.6349	1.00485	-.848	.398
• Second Group	63	2.7937	1.09484	-.848	
<b>Achievement Award:</b>					
• First Group	63	1.3016	.46263	-.191	.849
• Second Group	63	1.3175	.46923	-.191	

\* Represent statistical significance at the 5% level



**APPENDIX D**  
**Key Participant Characteristics**



## Key Participant Characteristics

<b>Descriptions</b>	<b>Categories</b>	<b>Frequencies</b>	<b>Percentage</b>
Gender	Male	68	53.97
	Female	58	46.03
<b>Total</b>		<b>126</b>	<b>100.00</b>
Age	Less than 30 years old	33	2.38
	30-40 years old	40	31.75
	41-50 years old	42	33.33
	More than 50 years old	41	32.54
<b>Total</b>		<b>126</b>	<b>100.00</b>
Marital status	Single	49	38.89
	Married	69	54.76
	Divorced	8	6.35
<b>Total</b>		<b>126</b>	<b>100.00</b>
Education levels	Bachelor's degree	44	34.92
	Higher than Bachelor's degree	82	65.08
<b>Total</b>		<b>126</b>	<b>100.00</b>
Working experience	Less than 5 years	7	5.56
	5 - 10 years	23	18.25
	11 - 15 years	25	19.84
	More than 15 years	71	56.35
<b>Total</b>		<b>126</b>	<b>100.00</b>
Average revenues per month	Less than 100,000 Baht	70	55.56
	100,000 - 125,000 Baht	28	22.22
	125,001 - 150,000 Baht	9	7.14
	More than 150,000 Baht	19	15.08
<b>Total</b>		<b>126</b>	<b>100.00</b>
Working positions	Internal audit directors	22	17.46
	Internal audit managers	58	46.03
	Other position	46	36.51
<b>Total</b>		<b>126</b>	<b>100.00</b>



**APPENDIX E**  
**Demographic of Firm Characteristics**



## Demographic of Firm Characteristics

Descriptions	Categories	Frequencies	Percentage
Type of business	Ago and Food Industry	11	8.73
	Consumer Products	8	6.35
	Financials	18	14.29
	Industrials	18	14.29
	Property and Construtions	19	15.07
	Resources	5	3.97
	Technology	20	15.87
	Services	11	8.73
	Others	16	12.70
<b>Total</b>		<b>126</b>	<b>100.00</b>
The period of time registers in the Stock Exchange of Thailand	Less than 5 years	9	7.15
	5 - 10 years	25	19.84
	11 - 15 years	20	15.87
	More than 15 years	72	57.14
<b>Total</b>		<b>126</b>	<b>100.00</b>
The period of time in proceeding business	Less than 5 years	7	5.55
	5 - 10 years	10	7.94
	11 - 15 years	10	7.94
	More than 15 years	99	78.57
<b>Total</b>		<b>126</b>	<b>100.00</b>
Authorized capitals (Baht)	Less than 1,000,000,000	63	50.00
	1,000,000,001 – 5,000,000,000	41	32.54
	5,000,000,001 – 9,000,000,000	7	5.55
	More than 9,000,000,000	15	11.91
<b>Total</b>		<b>126</b>	<b>100.00</b>



## Demographic of Firm Characteristics (Continued)

<b>Descriptions</b>	<b>Categories</b>	<b>Frequency</b>	<b>Percentage</b>
Total assets (Baht)	Less than 10,000,000,000	63	50.00
	10,000,000,000 – 50,000,000,000	36	28.57
	50,000,000,001 – 90,000,000,000	7	5.55
	More than 90,000,000,000	20	15.88
<b>Total</b>		<b>126</b>	<b>100.00</b>
Debt to Equity Ratio	Less than 2times	14	11.11
	2 – 3times	50	39.68
	4 – 5 times	20	15.87
	More than 5 times	42	33.34
<b>Total</b>		<b>126</b>	<b>100.00</b>
Operational Achievement Award	Always has been	87	69.05
	Never has been	39	30.95
<b>Total</b>		<b>126</b>	<b>100.00</b>





**APPENDIX F**

**Cover Letter and Questionnaire:Thai Version**





### แบบสอบถามเพื่อการวิจัย

เรื่อง การชาวนุญลาด การตรวจสอบภายในและการสร้างความสำเร็จขององค์กรของบริษัทจดทะเบียน  
ในตลาดหลักทรัพย์แห่งประเทศไทย

#### คำชี้แจง

การวิจัยนี้มีวัตถุประสงค์เพื่อรักษาความสัมพันธ์ของการตรวจสอบภายในและการสร้างความสำเร็จขององค์กรของบริษัทจดทะเบียนในตลาดหลักทรัพย์แห่งประเทศไทย เพื่อให้เป็นข้อมูลในการจัดทำวิทยานิพนธ์ในระดับปริญญาเอกของผู้วิจัยในหลักสูตรปรัชญาดุษฎีบัณฑิตกิตติมศักดิ์สาขาการบัญชีและการจัดการมหาวิทยาลัยมหาสารคาม จังหวัดมหาสารคาม โทรศัพท์ 043-754333

ผู้วิจัยใคร่ขอความอนุเคราะห์จากท่านในการตอบแบบสอบถามและได้โปรดให้ข้อเท็จจริงในการตอบแบบสอบถามชุดนี้ซึ่งข้อมูลที่ได้รับจากท่านนั้นมีความสำคัญอย่างยิ่งต่อการวิเคราะห์ข้อมูลในการศึกษาครั้งนี้ ดังนั้น เพื่อให้การศึกษาวิจัยนี้มีความถูกต้องเที่ยงตรงและเป็นประโยชน์อย่างแท้จริงจึงใคร่ขอความกรุณาจากท่านได้โปรดให้ข้อมูลที่เป็นข้อเท็จจริงในการตอบแบบสอบถามชุดนี้อย่างถูกต้องครบถ้วนทุกตอนซึ่งคำตอบของท่านจะถูกเก็บรักษาเป็นความลับ และจะไม่มีการใช้ข้อมูลใดๆ ที่เปิดเผยเกี่ยวกับตัวท่านในการรายงานข้อมูลรวมทั้งไม่มีกรร่วมใช้ข้อมูลดังกล่าวกับบุคคลภายนอกอื่นใด โดยไม่ได้รับอนุญาตจากท่าน

อนึ่งหากท่านมีข้อสงสัยประการใดเกี่ยวกับแบบสอบถามโปรดติดต่อผู้วิจัย นางสาวรัชฎกมล ปะละฤทธิ นิสิตปริญญาเอกสาขาการบัญชีมหาวิทยาลัยมหาสารคามและหากท่านมีความประสงค์ที่จะขอรับรายงานสรุปเกี่ยวกับการศึกษาวิจัยในครั้งนี้โปรดแจ้งความประสงค์และโปรดระบุ E-mail Address ของท่านตามที่ระบุไว้ด้านล่างหรือแนบนามบัตรของท่านมาพร้อมกับแบบสอบถามชุดนี้

ท่านต้องการรายงานสรุปผลการวิจัยหรือไม่

( ) ต้องการระบุ E-mail. .... ( ) ไม่ต้องการ

ข้าพเจ้าขอขอบพระคุณท่านที่ได้สละเวลาในการตอบแบบสอบถามชุดนี้ทุกข้อทุกตอน อย่างถูกต้อง ครบถ้วนและหวังเป็นอย่างยิ่งว่าข้อมูลที่ได้รับจากท่านจะเป็นประโยชน์อย่างยิ่งต่อการศึกษาวิจัยในครั้งนี้และขอขอบพระคุณท่านเป็นอย่างสูงมา ณ โอกาสนี้

(นางสาวรัชฎกมล ปะละฤทธิ)

นิสิตปริญญาเอกสาขาการบัญชี

คณะกรรมการบัญชีและการจัดการมหาวิทยาลัยมหาสารคาม

ติดต่อโดยตรง

โทรศัพท์มือถือ : 089-7129329

E-mail : [piradee.p@hotmail.com](mailto:piradee.p@hotmail.com)



**ตอนที่ 1** ข้อมูลทั่วไปของผู้บริหารฝ่ายตรวจสอบภายในของบริษัทจดทะเบียนในตลาดหลักทรัพย์แห่งประเทศไทย

1. เพศ

ชาย

หญิง

2. อายุ

น้อยกว่า 30 ปี

30 - 40 ปี

41 - 50 ปี

มากกว่า 50 ปี

3. สถานภาพ

โสด

สมรส

หม้าย/หย่าร้าง

4. ระดับการศึกษา

ปริญญาตรี

สูงกว่าปริญญาตรี

5. ประสบการณ์ในการทำงานในบริษัท

น้อยกว่า 5 ปี

5 - 10 ปี

11 - 15 ปี

มากกว่า 15 ปี

6. รายได้เฉลี่ยต่อเดือน

ต่ำกว่า 100,000 บาท

100,000 – 125,000 บาท

125,001 – 150,000 บาท

มากกว่า 150,000 บาท

7. ตำแหน่งงานในปัจจุบัน

ผู้อำนวยการฝ่ายตรวจสอบภายใน

ผู้จัดการฝ่ายตรวจสอบภายใน

อื่นๆระบุ.....



**ตอนที่ 2** ข้อมูลทั่วไปของบริษัทจดทะเบียนในตลาดหลักทรัพย์แห่งประเทศไทยในปัจจุบัน

1. ประเภทอุตสาหกรรม

- |  |  |
|--|--|
| <input type="checkbox"/> กลุ่มเกษตรและอุตสาหกรรมอาหาร    | <input type="checkbox"/> กลุ่มสินค้าอุปโภคบริโภค |
| <input type="checkbox"/> กลุ่มธุรกิจการเงิน              | <input type="checkbox"/> กลุ่มสินค้าอุตสาหกรรม   |
| <input type="checkbox"/> กลุ่มอสังหาริมทรัพย์และก่อสร้าง | <input type="checkbox"/> กลุ่มทรัพยากร           |
| <input type="checkbox"/> กลุ่มบริการ                     | <input type="checkbox"/> กลุ่มเทคโนโลยี          |
| <input type="checkbox"/> อื่นๆระบุ.....                  |  |

2. ระยะเวลาการจดทะเบียนในตลาดหลักทรัพย์แห่งประเทศไทย

- |  |  |
|--|--|
| <input type="checkbox"/> น้อยกว่า 5 ปี | <input type="checkbox"/> 5-10 ปี       |
| <input type="checkbox"/> 11-15 ปี      | <input type="checkbox"/> มากกว่า 15 ปี |

3. ระยะเวลาในการดำเนินธุรกิจ

- |  |  |
|--|--|
| <input type="checkbox"/> น้อยกว่า 5 ปี | <input type="checkbox"/> 5-10 ปี       |
| <input type="checkbox"/> 11-15 ปี      | <input type="checkbox"/> มากกว่า 15 ปี |

4. ทุนจดทะเบียน

- |  |  |
|--|--|
| <input type="checkbox"/> ต่ำกว่า 1,000,000,000 บาท         | <input type="checkbox"/> 1,000,000,000 - 5,000,000,000 บาท |
| <input type="checkbox"/> 5,000,000,001 - 9,000,000,000 บาท | <input type="checkbox"/> มากกว่า 9,000,000,000 บาท         |

5. สินทรัพย์รวมของบริษัท

- |  |  |
|--|--|
| <input type="checkbox"/> ต่ำกว่า 10,000,000,000 บาท          | <input type="checkbox"/> 10,000,000,001 - 50,000,000,000 บาท |
| <input type="checkbox"/> 50,000,000,001 - 90,000,000,000 บาท | <input type="checkbox"/> มากกว่า 90,000,000,000 บาท          |

6. สินทรัพย์รวมของบริษัท

- |  |  |
|--|--|
| <input type="checkbox"/> ต่ำกว่า 10,000,000,000 บาท        | <input type="checkbox"/> 10,000,000,001 - 50,000,000,000 บาท |
| <input type="checkbox"/> 50,000,000,001-90,000,000,000 บาท | <input type="checkbox"/> มากกว่า 90,000,000,000 บาท          |

7. ระยะเวลาที่บริษัทของท่านให้บริการจากสำนักงานสอบบัญชีปัจจุบัน

- |  |  |
|--|--|
| <input type="checkbox"/> น้อยกว่า 3 ปี | <input type="checkbox"/> 5 - 6 ปี      |
| <input type="checkbox"/> 7-10 ปี       | <input type="checkbox"/> มากกว่า 10 ปี |

8. รางวัลเกี่ยวกับความสำเร็จ/ความเป็นเลิศในการปฏิบัติงานที่กิจการเคยได้รับ

- |                                    |                                       |
|------------------------------------|---------------------------------------|
| <input type="checkbox"/> เคยได้รับ | <input type="checkbox"/> ไม่เคยได้รับ |
|------------------------------------|---------------------------------------|



**ตอนที่ 3** ความคิดเห็นเกี่ยวกับการชาญฉลาดการตรวจสอบภายในของบริษัทจดทะเบียนในตลาดหลักทรัพย์  
แห่งประเทศไทย

การชาญฉลาดการตรวจสอบภายใน (Internal Audit Intelligence)	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
<b>แนวคิดการตรวจสอบภายในที่ดี (Best Internal Audit Concept)</b>					
1. กิจการสนับสนุนให้มีการสอบทานความเชื่อถือได้ และความครบถ้วนของข้อมูลรายงานการเงิน การปฏิบัติงาน ตลอดจนวิธีการที่ใช้ในการวินิจฉัยและวัดผล					
2. กิจการตระหนักเสมอว่ารายงานที่มีผลกระทบต่อการค้าดำเนินงาน และการรายงานว่าได้มีการปฏิบัติที่สอดคล้องกับนโยบายแผนงาน ระเบียบปฏิบัติที่วางไว้ รวมทั้งกฎหมายที่เกี่ยวข้อง					
3. กิจการมุ่งเน้นให้มีการใช้ทรัพยากรขององค์กรเป็นไปอย่างมีประสิทธิภาพและคุ้มค่า					
4. กิจการให้ความสำคัญกับการสอบทานของการเก็บรักษาทรัพย์สิน และทดสอบทรัพย์สินมีอยู่จริง					
<b>ความรู้ที่ดีในการตรวจสอบภายใน (Internal Audit Knowledge Well-roundedness)</b>					
5. กิจการเชื่อมั่นว่ากิจการมีความรอบรู้และเข้าใจในมาตรฐานการตรวจสอบภายในและข้อกำหนดด้านต่างๆ ที่เกี่ยวข้องได้เป็นอย่างดี					
6. กิจการตระหนักถึงประโยชน์ การประยุกต์ใช้เทคโนโลยีสารสนเทศ และเข้าใจถึงข้อจำกัด ปัญหาอุปสรรคที่มีผลต่อการดำเนินงานของกิจการ					
7. กิจการสนับสนุนให้มีการศึกษาและทำความเข้าใจเกี่ยวกับปัญหาอุปสรรคต่างๆ ที่เกิดขึ้นกับกิจการของลูกค้า ซึ่งอาจส่งผลกระทบต่อความเสี่ยงของกิจการ					
8. กิจการให้ความสำคัญกับการวิเคราะห์จุดอ่อน จุดแข็ง ปัญหา และอุปสรรค โอกาสและผลกระทบของอุตสาหกรรมอย่างเป็นระบบ					
<b>การมุ่งเน้นใช้วิจรรณญาณในการตรวจสอบ (Internal Audit Skepticism Focus)</b>					
9. กิจการมุ่งเน้นให้มีการศึกษาและการทำความเข้าใจเกี่ยวกับสภาพแวดล้อมการปฏิบัติงานตรวจสอบภายใน ตลอดจนบูรณาการการตรวจสอบภายใน					



## ตอนที่ 3 (ต่อ)

การชาญฉลาดการตรวจสอบภายใน (Internal Audit Intelligence)	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
10. กิจกรรมมุ่งเน้นให้มีการประเมินสถานการณ์ความไม่แน่นอนจากปัจจัยภายใน ภายนอก ที่อาจมีผลต่อการดำเนินงานอย่างต่อเนื่อง					
11. กิจกรรมให้ความสำคัญกับการประเมินจุดอ่อนและจุดแข็งอย่างเป็นระบบและเป็นรูปธรรม เพื่อนำมาใช้เป็นข้อมูลในการตัดสินใจด้านต่างๆ ที่เกี่ยวข้องมีประสิทธิภาพมากขึ้น					
12. กิจกรรมตระหนักถึงการประเมินการปฏิบัติงานตรวจสอบภายในระหว่างทีมงานตรวจสอบและคณะกรรมการตรวจสอบ ทำให้ประสิทธิภาพการตรวจสอบดีขึ้น					
<b>การรับรู้จริยธรรมในการตรวจสอบ (Internal Audit Ethics Awareness)</b>					
13. กิจกรรมให้ความสำคัญกับการกำหนดแนวปฏิบัติด้านจริยธรรมของหน่วยตรวจสอบภายในให้สอดคล้องกับมาตรฐานจริยธรรม					
14. กิจกรรมมุ่งเน้นให้มีการกำหนดนโยบายและวิธีปฏิบัติงานเพื่อรักษาความเป็นอิสระและเที่ยงธรรมของหน่วยงานตรวจสอบภายใน					
15. กิจกรรมส่งเสริมให้หน่วยงานตรวจสอบภายในปฏิบัติงานโดยรักษาไว้ซึ่งการจรรยาบรรณของวิชาชีพตรวจสอบภายใน					
16. กิจกรรมสนับสนุนให้หน่วยงานตรวจสอบภายในปฏิบัติงานโดยอิสระปราศจากความกดดันและความลำเอียงในการปฏิบัติงาน					
<b>ความคิดเป็นเลิศในการตรวจสอบ (Internal Audit Excellence Mindset)</b>					
17. กิจกรรมเชื่อมั่นว่าการปฏิบัติงานตรวจสอบภายใน ช่วยทำให้กิจการได้รับการยอมรับเกี่ยวกับคุณภาพของการรายงานทางการเงินจากผู้มีส่วนได้เสีย					
18. กิจกรรมส่งเสริมให้บุคลากรมีการปฏิบัติงานทางการบัญชีที่เป็นระบบ โดยมีหลักฐานและแนวทางการดำเนินงานที่ชัดเจนสามารถตรวจสอบได้					
19. กิจกรรมเชื่อมั่นว่าการแสดงผลการตรวจสอบภายในที่สะท้อนถึงผลการดำเนินงานที่แท้จริงหลายๆ ด้าน เป็นสิ่งสำคัญในการดำเนินธุรกิจ					



**ตอนที่ 3** (ต่อ)

การชาญฉลาดการตรวจสอบภายใน (Internal Audit Intelligence)	ระดับความคิดเห็น				
	มากที่สุด	มาก	ปานกลาง	น้อย	น้อยที่สุด
	5	4	3	2	1
20. กิจการมุ่งเน้นให้มีการวิเคราะห์ผลกระทบที่อาจเกิดขึ้นเพื่อนำมาเป็นฐานในการปรับปรุงและพัฒนาแนวทางปฏิบัติทางการตรวจสอบภายใน เพื่อช่วยในการปฏิบัติงานเป็นไปอย่างมีคุณภาพ					

**ตอนที่ 4** ความคิดเห็นเกี่ยวกับผลการปฏิบัติงานการตรวจสอบภายในของบริษัทจดทะเบียนในตลาดหลักทรัพย์แห่งประเทศไทย

ผลการปฏิบัติงานตรวจสอบภายใน	ระดับความคิดเห็น				
	มากที่สุด	มาก	ปานกลาง	น้อย	น้อยที่สุด
	5	4	3	2	1
<b>การปฏิบัติงานตรวจสอบภายในที่ดีที่สุด (Best Internal Audit Practice)</b>					
1. กิจการสามารถวิเคราะห์สภาพแวดล้อมการดำเนินงานการตรวจสอบภายในและเข้าใจสภาพแวดล้อมในการปฏิบัติงานโดยรวมขององค์กร ช่วยทำให้กิจการบรรลุจุดอ่อนและจุดแข็งในการดำเนินงานของกิจการได้อย่างถูกต้องเหมาะสม					
2. กิจการสามารถผสมผสานความรู้ ความสามารถ และวิธีการที่ระบุในการจัดการกับความเสี่ยงที่ครอบคลุมในทุกกิจกรรมการดำเนินงานกิจการ โดยสามารถเพิ่มศักยภาพและประสิทธิภาพการตรวจสอบภายในได้					
3. กิจการมีแผนการตรวจสอบภายในที่มีความชัดเจนและครอบคลุมในทุกกิจกรรมดำเนินงานขององค์กรอย่างครบถ้วน					
4. กิจการสามารถจัดทำแผนงานได้อย่างครอบคลุม และนำไปใช้ประโยชน์ในการปฏิบัติงานตรวจสอบโดยใช้เวลาและทรัพยากรในการปฏิบัติงานตรวจสอบอย่างมีประสิทธิภาพ รวมทั้งการป้องกันผลประโยชน์ของผู้มีส่วนได้เสียของกิจการได้					



**ตอนที่ 4** (ต่อ)

ผลการปฏิบัติงานตรวจสอบภายใน	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
<p><b>ประสิทธิผลการวางแผนการตรวจสอบภายใน (Internal Audit Planning Effectiveness)</b></p> <p>5. กิจการมีการจัดสรรทรัพยากรในการตรวจสอบอย่างเหมาะสมโดยสามารถเพิ่มประสิทธิภาพและประสิทธิผลในการตรวจสอบได้เป็นอย่างดี</p>					
<p>6. กิจการสามารถจัดสรรเวลา บุคลากร และเครื่องมือที่จำเป็นที่ใช้ในการตรวจสอบ จึงต้องมีการวางแผนอย่างเป็นระบบและรัดกุม เพื่อให้เกิดประสิทธิภาพสูงสุดในการปฏิบัติงาน</p>					
<p>7. กิจการสามารถวางแผนในการตรวจสอบโดยคำนึงถึงขอบเขตของงานในแต่ละกิจกรรมที่จำเป็น และจำเป็นต้องใช้อย่างเพียงพอและเหมาะสม</p>					
<p>8. กิจการสามารถพัฒนาความรู้ ความสามารถของผู้ปฏิบัติงานตรวจสอบภายในฐานะที่เป็นทรัพยากรในการตรวจสอบที่สำคัญของหน่วยงาน โดยเป็นการเพิ่มศักยภาพในการตรวจสอบภายในให้มีประสิทธิภาพและประสิทธิผลยิ่งขึ้น</p>					
<p><b>การทบทวนประสิทธิภาพการตรวจสอบภายใน (Internal Audit Review Efficiency)</b></p> <p>9. กิจการสามารถปฏิบัติงานตรวจสอบภายในได้และบันทึกผลการปฏิบัติงานตามแนวทางหรือคู่มือการปฏิบัติงานที่กำหนดไว้อย่างต่อเนื่องและสม่ำเสมอ และมีหลักฐานการตรวจสอบที่มีความถูกต้องครบถ้วน</p>					
<p>10. กิจการสามารถสอบทานงานและการประเมินผลการปฏิบัติงานตรวจสอบอย่างต่อเนื่องสม่ำเสมอ ทั้งจากคณะกรรมการตรวจสอบภายในและภายนอก ทำให้ประสิทธิภาพการตรวจสอบดียิ่งขึ้น</p>					
<p>11. กิจการสามารถทบทวนและประเมินความครบถ้วน เพียงพอ และถูกต้องของหลักฐานการตรวจสอบภายใน เพื่อให้แน่ใจว่าการตรวจสอบได้อย่างครอบคลุมในทุกกิจกรรมของกิจการ</p>					





**ตอนที่ 4 (ต่อ)**

ผลการปฏิบัติงานตรวจสอบภายใน	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
12. กิจการมีการเลือกใช้เครื่องมือหรือรูปแบบในการสอบทานงานตรวจสอบที่เหมาะสมและสามารถออกแบบกิจกรรมการตรวจสอบตามลำดับความเสี่ยงที่สำคัญได้อย่างรวดเร็ว ใช้เวลาและทรัพยากรอย่างมีประสิทธิภาพ					
<b>คุณภาพในการตรวจสอบภายใน (Internal Audit Quality)</b> 13. กิจการสามารถบรรลุวัตถุประสงค์และเป้าหมายของการตรวจสอบภายในได้เป็นอย่างดี					
14. กิจการสามารถปฏิบัติงานตามขอบเขต วัตถุประสงค์ และเป้าหมายได้อย่างมีประสิทธิภาพ					
15. กิจการสามารถป้องกันและลดความเสี่ยงขององค์กรได้อย่างมีประสิทธิภาพ					
16. กิจการสามารถจัดทำรายงานการเงินได้อย่างมีประสิทธิภาพเป็นประโยชน์ต่อผู้ใช้ข้อมูลทุกฝ่าย					
<b>มูลค่าเพิ่มของการตัดสินใจ ( Decision Making Value)</b> 17. กิจการสามารถรายงานการตรวจสอบภายในที่เพิ่มขึ้นโดยมีการนำเสนอประเด็นที่เป็นสาระสำคัญและตรงกับความต้องการของผู้ที่เกี่ยวข้องในการนำไปใช้ในการตัดสินใจอย่างถูกต้อง					
18. กิจการสามารถรายงานผลการตรวจสอบภายในได้เป็นไปตามมาตรฐานในการปฏิบัติงานตรวจสอบภายใน ซึ่งได้รับการยอมรับและนำไปใช้ในการตัดสินใจในประเด็นต่างๆ อย่างน่าเชื่อถือ					
19. กิจการสามารถรายงานสิ่งที่พบจากการตรวจสอบ รวมทั้งข้อเสนอแนะในการแก้ไขเพื่อปรับปรุงกระบวนการดำเนินงานการตัดสินใจโดยมีคุณภาพมากยิ่งขึ้นเพื่อเพิ่มมูลค่าในการตัดสินใจเป็น อย่างดี					
20. กิจการสามารถติดตามระยะเวลาที่กำหนด และตอบสนองความต้องการของผู้ที่เกี่ยวข้องได้ทันเวลา					



**ตอนที่ 4 (ต่อ)**

ผลการปฏิบัติงานตรวจสอบภายใน	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
<b>ความสำเร็จและเป้าหมายขององค์กร (Organization Goal Achievement)</b>					
21. กิจการมีฐานะการเงินและผลการดำเนินงานที่มั่นคงและมีเสถียรภาพสามารถดำเนินกิจการได้อย่างต่อเนื่อง					
22. กิจการมีผลการดำเนินงานที่เพิ่มขึ้นอย่างต่อเนื่อง เมื่อเทียบกับผลการดำเนินงานในปีที่ผ่านมา					
23. กิจการมีอัตราการเจริญเติบโต ส่วนแบ่งทางการตลาดเพิ่มขึ้น และมีแนวโน้มเพิ่มขึ้นในระยะยาว					
24. กิจการมีความสามารถและศักยภาพเพียงพอที่จะรักษาผลการเติบโตและอยู่รอดในธุรกิจไม่ว่าอนาคตในภาวะวิกฤติทางเศรษฐกิจในปัจจุบันและอนาคต					
<b>ความสำเร็จองค์กร (Firm Success)</b>					
25. กิจการมีการเติบโตในด้านสินทรัพย์ ยอดขาย และกำไร เป็นไปตามเป้าหมายของกิจการอย่างมีประสิทธิภาพ					
26. กิจการมีส่วนแบ่งทางการตลาดที่เพิ่มขึ้นอย่างต่อเนื่อง					
27. กิจการมีประสิทธิภาพในการปฏิบัติงานเพิ่มมากขึ้นอย่างต่อเนื่อง และสามารถบรรลุเป้าหมายได้อย่างดีเยี่ยม					
28. กิจการมีนวัตกรรมการผลิตสินค้าและบริการที่ได้คุณภาพ และมาตรฐานและเป็นที่ยอมรับของผู้บริโภค					



**ตอนที่ 5** ความคิดเห็นเกี่ยวกับปัจจัยภายในที่ส่งผลต่อความชาญฉลาดการตรวจสอบภายในของบริษัทจดทะเบียน  
ในตลาดหลักทรัพย์แห่งประเทศไทย

ปัจจัยภายในที่ส่งผลต่อความชาญฉลาดการตรวจสอบภายใน	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
<b>วิสัยทัศน์ในการกำกับดูแล (Governance Vision)</b>					
1. กิจการยึดมั่นในการบริหารงานตามกฎระเบียบโดยสร้างมูลค่าเพิ่มให้แก่ผู้มีส่วนได้เสีย ความรับผิดชอบและสังคม					
2. กิจการให้ความสำคัญกับการปฏิบัติตามกฎหมาย กฎระเบียบต่างๆ ของหน่วยงานภายในและภายนอก					
3. กิจการส่งเสริมให้ยึดมั่นในหลักคุณธรรม ซื่อสัตย์ความถูกต้องจริงจังในการปฏิบัติงานต่อผู้ที่เกี่ยวข้อง					
4. กิจการมุ่งเน้นให้มีการบริหารงานตามหลักธรรมาภิบาล และเสริมสร้างความน่าเชื่อถือในองค์กร การยอมรับจากผู้มีส่วนได้เสีย ส่งผลให้องค์กรประสบผลสำเร็จในอนาคต					
<b>การเรียนรู้ด้านการตรวจสอบภายใน (Internal Audit Learning)</b>					
5. กิจการเชื่อมั่นว่าการแสวงหาความรู้ผ่านประสบการณ์ การอบรมอย่างต่อเนื่องจะช่วยให้กิจการมีความสามารถในการตรวจสอบภายในได้ดียิ่งขึ้นและมีความกระตือรือร้นเพื่อเพิ่มคุณค่าในองค์กรได้					
6. กิจการให้ความสำคัญกับการมีส่วนร่วมในการฝึกอบรมของบุคลากรเพื่อพัฒนาทักษะการตรวจสอบภายในให้มีศักยภาพเสมอ					
7. กิจการมุ่งเน้นให้มีการศึกษาหาความรู้ และความเข้าใจเทคนิควิธีการตรวจสอบภายในสมัยใหม่เพื่อให้การตรวจสอบมีประสิทธิภาพมากยิ่งขึ้น					
8. กิจการให้ความสำคัญกับการศึกษาและทำความเข้าใจการเปลี่ยนแปลงในวิชาชีพ จะช่วยให้การปฏิบัติงานมีความทันต่อเหตุการณ์และมีความเป็นมืออาชีพ					
<b>ศักยภาพการตรวจสอบภายใน (Internal Audit Competency)</b>					
9. กิจการเชื่อมั่นว่าบุคลากรด้านการตรวจสอบภายในมีการเรียนรู้ทักษะและความสามารถในการตรวจสอบภายในอย่างดี ทำให้การดำเนินการตรวจสอบมีประสิทธิภาพอย่างต่อเนื่อง					
10. กิจการให้ความสำคัญกับการจัดทำคู่มือการตรวจสอบภายในเพื่อใช้เป็นแนวทางวิธีปฏิบัติงานให้บรรลุเป้าหมายอย่างมีประสิทธิภาพ					



**ตอนที่ 5** (ต่อ)

ปัจจัยภายในที่ส่งผลต่อความชาญฉลาดการตรวจสอบภายใน	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
11. กิจการเชื่อว่าบุคลากรสามารถวิเคราะห์ความเสียหายได้อย่างเหมาะสม ครอบคลุมเป็นอย่างดีทำให้ประสบความสำเร็จได้ดียิ่งขึ้น					
12. กิจการมุ่งเน้นให้บุคลากรทำการศึกษาถึงการเชื่อมโยงข้อมูลและประเด็นต่างๆที่เกี่ยวข้องส่งผลให้การปฏิบัติงานตรวจสอบภายในมีประสิทธิภาพมากยิ่งขึ้นให้การปฏิบัติงานเร็วขึ้น					
<b>ประสบการณ์ด้านการตรวจสอบภายใน (Internal Audit Experience)</b>					
13. กิจการให้ความสำคัญกับประสบการณ์การตรวจสอบภายใน เสริมสร้างความเข้าใจในลักษณะการรายงานทางธุรกิจเพื่อนำไปใช้เป็นแนวทางการตรวจสอบภายใน					
14. กิจการมุ่งเน้นให้มีการนำข้อมูล ประเมิน และเข้าใจถึงการปฏิบัติงานที่ผ่านมาไปประยุกต์ใช้การปฏิบัติงานในปัจจุบัน เพื่อให้เกิดประสิทธิภาพมากยิ่งขึ้น					
15. กิจการส่งเสริมให้มีการแลกเปลี่ยนทักษะความสามารถระหว่างหน่วยงานตรวจสอบภายใน ทำให้การดำเนินงานบรรลุเป้าหมายได้ดียิ่งขึ้น					
16. กิจการสนับสนุนให้มีการปฏิบัติงานตรวจสอบภายในอย่างสม่ำเสมอและต่อเนื่อง ทำให้บุคลากรเกิดความเชี่ยวชาญในการปฏิบัติงานอย่างแท้จริง					



**ตอนที่ 6** ความคิดเห็นเกี่ยวกับปัจจัยภายนอกที่ส่งผลต่อความชาญฉลาดการตรวจสอบภายในของบริษัทจดทะเบียนในตลาดหลักทรัพย์แห่งประเทศไทย

ปัจจัยภายนอกที่ส่งผลต่อความชาญฉลาดการตรวจสอบภายใน	ระดับความคิดเห็น				
	มากที่สุด 5	มาก 4	ปานกลาง 3	น้อย 2	น้อยที่สุด 1
<b>ความคาดหวังของผู้มีส่วนได้เสีย (Stakeholder Expectation)</b>					
1. นักลงทุนต้องการใช้ข้อมูลเพื่อการตัดสินใจในการลงทุนที่ถูกต้องและเชื่อถือได้อย่างต่อเนื่อง ส่งผลให้กิจการต่างๆ ต้องพัฒนาศักยภาพในการรายงานข้อมูลข่าวสารที่มีความถูกต้องและชัดเจนเพิ่มมากขึ้น					
2. ผู้ถือหุ้นคาดหวังในผลตอบแทนที่ยั่งยืนจากการดำเนินงานที่มีประสิทธิภาพและประสิทธิผล ทำให้กิจการต่างๆ ต้องมุ่งมั่นดำเนินงานด้วยความซื่อสัตย์ โปร่งใส เป็นธรรมเพื่อให้เกิดความมั่นคงในระยะยาว					
3. กิจการพิจารณาว่าลูกค้ามีความต้องการสินค้าและบริการที่เปลี่ยนแปลงอยู่ตลอดเวลา และเพื่อให้ตอบสนองความต้องการที่หลากหลายของลูกค้าได้ ทำให้กิจการต่างๆ ต้องพัฒนาศักยภาพในการปฏิบัติงานของตนให้สูงขึ้นเสมอ					
4. คู่ค้าต้องการให้มีการปฏิบัติตามเงื่อนไขหรือข้อสัญญาทางการค้าที่กำหนดขึ้นอย่างเคร่งครัด ส่งผลให้กิจการต่างๆ ต้องปฏิบัติงานอย่างมีประสิทธิภาพและยึดมั่นในพันธะสัญญาที่กำหนดไว้ เพื่อให้เกิดผลประโยชน์ที่เท่าเทียมและเป็นธรรม					

**ตอนที่ 7** ข้อคิดเห็นและข้อเสนอแนะเกี่ยวกับการตรวจสอบภายในและประเด็นต่างๆที่เกี่ยวข้อง

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ขอขอบพระคุณท่านที่ได้สละเวลาในการตอบแบบสอบถามชุดนี้ทุกข้อ ทุกตอน และขอความกรุณาท่านโปรดพิมพ์แบบสอบถามแล้วใส่ซองที่แนบมาพร้อมนี้ เพื่อส่งคืนผู้วิจัยตามที่อยู่ที่ระบุไว้



## **APPENDIX G**

### **Cover Letters and Questionnaire: English Version**





**Questionnaire for the Ph.D. Dissertation Research entitled  
“Internal Audit Intelligence and Firm success:  
Evidence from Thai-listed Firms”**

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**Directions**

This research is a part of doctoral dissertation of Miss ThanyagamonPararit at the Maharakham Business School, Maharakham University, Thailand. The objective of this research is to examine the effect of internal audit intelligence on firm success of Thai-listed firms.

Your answer will be kept as confidentiality and your information will not be shared with any outside party without your permission. If you have any questions with respect to this research, please contact me directly.

If you want a summary of this research, please indicate your E-mail address or attach your business card with this questionnaire. The summary will be mailed to you as soon as the analysis is completed.

Do you want a summary of the results?

( ) Yes e-mail address \_\_\_\_\_ ( ) No -

Thank you for your time answering all questions. I very much hope that your answer will provide the valuable information for my dissertation.

Sincerely yours,

(ThanyagamonPararit)

Ph.D. Student Maharakham Business School  
Maharakham University, Thailand

Contact Info:

Mobile phone: 089-7129329

E-mail: piradee.p@hotmail.com



**Part 1** Demographic data of Internal Audit Managers/Internal Audit Directors of Thai-listed firm

## 1. Gender

 Male Female

## 2. Age

 Less than 30 years old 30 - 40 years old 41 -50 years old More than 50 years old

## 3. Marital status

 Single Married Divorced

## 4. Educational level

 Bachelor's degree Higher than bachelor's degree

## 5. Working experience

 Less than 5 years 5-10 years 11-15 years More than 15 years

## 6. Average monthly income at present

 Less than 100,000 Baht 100,000-125,000 Baht 125,001-150,000 Baht More than 150,000 Baht

## 7. Working position at present

 Internal Audit Directors Internal Audit Managers Other (Please specify).....



**Part 2** General data about Thai-listed firm

## 1. Industrial category

- |  |  |
|--|--|
| <input type="checkbox"/> Agro and Food Industry  | <input type="checkbox"/> Consumer Products |
| <input type="checkbox"/> Financials              | <input type="checkbox"/> Industrials       |
| <input type="checkbox"/> Property & Construction | <input type="checkbox"/> Resources         |
| <input type="checkbox"/> Services                | <input type="checkbox"/> Technology        |
| <input type="checkbox"/> Other (Please specify)  |  |

## 2. The period of time registers in the Stock Exchange of Thailand

- |  |   |
|--|---|
| <input type="checkbox"/> Less than 5 years | <input type="checkbox"/> 5 -10 years        |
| <input type="checkbox"/> 11-15 years       | <input type="checkbox"/> More than 15 years |

## 3. The period of time in business

- |  |   |
|--|---|
| <input type="checkbox"/> Less than 5 years | <input type="checkbox"/> 5 - 10 years       |
| <input type="checkbox"/> 11-15 years       | <input type="checkbox"/> More than 15 years |

## 4. Authorized capital of the firm

- Less than 1,000,000,000 Baht
- 1,000,000,001 - 5,000,000,000 Baht
- 5,000,000,001 - 10,000,000,000 Baht
- More than 10,000,000,000 Baht

## 5. Total assets of the firm

- Less than 10,000,000,000 Baht
- 10,000,000,001 - 50,000,000,000 Baht
- 50,000,000,001 - 100,000,000,000 Baht
- More than 100,000,000,000 Baht

## 6. Debt to Equity Ratio

- |  |  |
|--|--|
| <input type="checkbox"/> Less than 2 times | <input type="checkbox"/> 2 - 3 times       |
| <input type="checkbox"/> 4 - 5 times       | <input type="checkbox"/> More than 5 times |

## 7. Has firm ever won the operational achievement award?

- |                              |                             |
|------------------------------|-----------------------------|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|------------------------------|-----------------------------|



**Section 3** Opinions in internal audit intelligence of Thai-listed firm

Internal Audit intelligence	Opinion Levels				
	Strongly Agree 5	Agree 4	Not Sure 3	Disagree 2	Strongly Disagree 1
<b><u>Best Internal Audit Concept</u></b>					
1.The business supports the review of reliability and the completeness of the financial report the performance including the methods used in the diagnosis and evaluation.					
2.The business always realizes the report will have the significant impact on the operation. And the report that there has been compliance with policies, procedures, and regulations laid down, including the laws involved.					
3.The company focuses on the use of resources efficiently and effectively.					
4.The business attends to the review of property preservation and physical property.					
<b><u>Internal Audit Knowledge Well-roundedness</u></b>					
5.The business believes that there is well knowledge and understanding of the internal audit and legal aspects involved.					
6. The business realizes the benefits of applying information technology to understand the limitations and the problems that affect the operation of the business.					
7. The business encourages the study and understanding of the problems with customers, which may affect the risk of the business.					
8. The business attends systematically to the analyzing of the strengths, weaknesses, problems, opportunities, and the affecting of the industry.					
<b><u>Internal Audit Skepticism Focus</u></b>					
9.The business committed to study and understanding about the environment of the practice well as the integration of the internal audit.					
10. The business focuses to have the situation assessment uncertainty from internal, external, which may affect the operation continuously.					



**Section 3** (Continued)

Internal Audit intelligence	Opinion Levels				
	Strongly Agree 5	Agree 4	Not Sure 3	Disagree 2	Strongly Disagree 1
11. The business values the assessment of strengths and weaknesses systematically and concretely to used for the information in the relevant decision more effectively.					
12. The business realizes the evaluation of the internal audit between audit team and the audit committee to monitor the performance even better.					
<b><u>Internal Audit Ethics Awareness</u></b>					
13. The business focuses on the ethical practice of the internal audit in accordance with ethical standards.					
14. The business focuses on the application of policies and procedures to maintain the independence and objectivity of the internal audit.					
15. The business promotes the internal audit work by maintaining the Code of Conduct of the internal audit profession.					
16. The business supports to internal audit work independently without pressure and bias in performance.					
<b><u>Internal Audit Excellence Mindset</u></b>					
17. The business believes that the practice of the internal audit improved their business to be recognized for the quality of financial reporting by stakeholders.					
18. The business encourages the employees to practice a systematic accounting, and be able to be checked all evidences and clear guidelines.					
19. The business believes that the results of the internal audit procedures to reflect actual results of operations are important in many aspects of business operations.					
20. The business focuses on the impact analysis to be the basis to improve and develop the practice of internal auditing for best practice.					



**Section 4** Comments on the performance audit of the companies listed on the Stock Exchange of Thailand

The Performance Audit	Opinion Levels				
	Strongly Agree 5	Agree 4	Not Sure 3	Disagree 2	Strongly Disagree 1
<b><u>Best Internal Audit Practice</u></b>					
1. Firm has set up a plan for internal audit.					
2. Firm has set up internal audit objectives and uses these objectives as a tool to indicate procedure.					
3. Firm has a good operation plan and suitable resources for auditing.					
4. Firm has analyzed weak points and risks which may affect the firm's success and has then proceeded to address the issues constructively.					
<b><u>Internal Audit Planning Effectiveness</u></b>					
5. The business has the resources to investigate properly, increase the efficiency and effectiveness in the monitoring well.					
6. The business can allocate time, personnel, and tools needed to validate. It must be planned systematically and concisely to achieve maximum efficiency in practice.					
7. The business can plan in checking by considering the scope of activities in each activity is necessary and appropriate.					
8. The business can develop the knowledge and skills of the internal audit as an important resource to check by increasing the potential in audit efficiency and effectiveness.					
<b><u>Internal Audit Review Efficiency</u></b>					
9. The business can work as the internal audit, and record the result according to the guidelines continuously and regularly, by having accurate and complete evidence to check.					
10. The business can review and evaluate the performance continuously, both from the inside and outside to inspect the efficiency better.					



**Section 4** (Continued)

The Performance Audit	Opinion Levels				
	Strongly Agree 5	Agree 4	Not Sure 3	Disagree 2	Strongly Disagree 1
11. The business can review and assess the completeness, sufficient and accurate evidence inspection within, in order to make sure to check all the activities of the comprehensive business.					
12. The business selects tools or forms to review the performance appropriately, and can design activities by the major risks quickly, including having a quality in taking time and resources.					
<b><u>Internal Audit Quality</u></b>					
13. The business can achieve the purposes and objectives of internal audit as well.					
14. The business can work by the scope, objectives, and targets effectively.					
15. The business can prevent and reduce the risk of the enterprise efficiently.					
16. The business can prepare financial statements effectively, and it is beneficial to the user data.					
<b><u>Decision Making Value</u></b>					
17. The business can report the internal audit by presenting of important issues and meet needs of those involved in applied in decision correctly.					
18. The business can audit reporting within standard in performance audit, which has been accepted and applied in decision making in various issues as credible.					
19. The business can report what was found from the inspection and the suggestion to resolve, to improve process operation decision by a higher quality to add value in the decision as well.					
20. The business can keep track of the time limit, and meet the needs of those involved in a timely manner.					



**Section 4** (Continued)

The Performance Audit	Opinion Levels				
	Strongly Agree 5	Agree 4	Not Sure 3	Disagree 2	Strongly Disagree 1
<b>Organization Goal Achievement</b>					
21. The business has financial and performance stable, and can operate it continuously.					
22. The business estimates increased continuously, compared with the performance in the previous year.					
23. The business has market share increasing and tend to rise in the long term.					
24. The business has the ability and potential to maintain the growth and survive in the business, whether in economic crisis at present and in the future.					
<b>Firm Success</b>					
25. The business is growing in terms of assets, sales, and profits, according to the target of business efficiency.					
26. The business has a market share increased continuously.					
27. The business effectively in practice is increasing continuously and can achieve it well.					
28. The business has innovation product, quality in service, and standard recognized by consumers.					



**Section 5** Comments about the internal factors that affect the internal audit intelligence of the companies listed on the Stock Exchange of Thailand.

The Internal Factors that Affect the Internal Audit Intelligence	Opinion Levels				
	Strongly Agree 5	Agree 4	Not Sure 3	Disagree 2	Strongly Disagree 1
<b><u>Governance Vision</u></b>					
1. The business adheres to the administration according to rules by creating added value to the stakeholders, and the responsibility and the society.					
2. The business focuses on compliance with laws and regulations of various internal and external.					
3. The business promotes adherence to moral principles, honesty, integrity, sincere in performance on those involved.					
4. The business focus to have management according to the good governance and strengthen the trust enterprise; acceptance from stakeholders contribute to experience success in the future organization.					
<b><u>Internal Audit Learning</u></b>					
5. The business believes that the acquiring knowledge through experiences and continuous training will help enterprises to have the ability to investigate better and shape the organization valuable.					
6. The business focuses on participation in the training of personnel, to develop the potential of the internal audit.					
7. The business focuses on learning and to understanding the techniques of modern internal audit, in order to ensure more effectively.					
8. The business focuses on education and understanding of the changes in the profession, working in time to and professionalism.					
<b><u>Internal Audit Competency</u></b>					
9. The business believes that the internal audit personnel are learning, skills, and abilities in checking well, making the inspection effectiveness continuously.					



**Section 5** (Continued)

The Internal Factors that Affect the Internal Audit Intelligence	Opinion Levels				
	Strongly Agree 5	Agree 4	Not Sure 3	Disagree 2	Strongly Disagree 1
10. The business focuses on the handbook of internal audit to use as a guideline practices to achieve the efficiency.					
11. The business believes that the employees have ability in analyzing the damage properly and successful.					
12. The business focuses on the study of the connection of data, and issue involved, resulting in a more efficient operation of internal audit.					
<b><u>Internal Audit Experience</u></b> 13. The business focused on the experience of internal audit to strengthen the understanding of the nature of business reports to be used as guidelines for the internal audit.					
14. The business focuses on the application of data to evaluate and understand the performance of past, applied in practicing at present, to achieve more effective.					
15. The business promote exchanges ability between the internal audit to maintain the performance goals better.					
16. The business supports the performance audit regularly and continuously. The staff's expertise in practice.					





**Section 6** Comments on external factors which affect the internal audit intelligence of the companies listed on the Stock Exchange of Thailand.

The External Factors that Affect the Internal Audit Intelligence	Opinion Levels				
	Strongly Agree 5	Agree 4	Not Sure 3	Disagree 2	Strongly Disagree 1
<b>Stakeholder Expectation</b> 1. Investors need to use the information for making a right decision and reliably continued, resulting in various activities to develop potential in reporting news and information with accurate and clear more and more.					
2. Shareholders expect in return for sustainable operations from the efficient and effective to various parties must strive operating with integrity. Transparent, fair to achieve stability in the long term.					
3. The business considers the demand and services which constantly changing to meet the various needs of customers, to develop the potential performance higher.					
4. Partners want to compliance with the conditions or joint trade agreement set strictly, due to the various parties to work effectively, and adhere to the commitments, to ensure equal and fair.					

**Section 7** Recommendation and suggestions in internal audit intelligence

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.....Thank you for your participation.....

## **CURRICULUM VITAE**



## CURRICULUM VITAE

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2000 Bachelor of Accounting at University of Thai Chamber of  
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### RESEARCH

2015 Pararit T. and Ussahawanitchakit P., 2015 "Internal Audit  
Intelligence and Firm Success of Thai Listed Firms"

