The Implementation of Enterprise Risk Management: Assessing the Role of Internal Audit and Audit Committee

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Abstract

The study evaluates the role of internal audit and audit committee in the ERM implementation at different aspects. The study examines relationships between certain internal audit characteristics namely competency, independence, working priorities, and the cooperation of audit committee and the of ERM implementation. The study conducts a survey on eighty two Bursa Malaysia listed companies which have their own internal audit units. Results indicate that internal audit competency is significant for the development of policies and procedures, review and feedbacks. The study finds that internal audit independence is significant for the strategy and follow-up actions of ERM. The cooperation given by the audit committee is shown to have a significant positive relationship with the procedure and policy formation. Priority of work of internal audit is significantly related to the implementation of all ERM components. This study provides evidence on the importance of internal audit involvement and audit committee cooperation in strengthening the ERM implementation. The inclusion of companies only with their own internal audit units and exclusion of companies which outsource their internal audit services to outside parties limit the generalizability of results. The support by internal auditors and observation by audit committees are imperative in the implementation of ERM particularly in the development of policies and procedures, review and feedbacks, and strategy and follow-up actions. The study provides an understanding on the contribution of internal audit and audit committee in expediting the implementation of ERM.

Keywords: Enterprise Risk, Internal Audit, Audit Committee

1. Introduction

This paper examines the implementation of enterprise risk management (ERM) to alleviate performance and competitiveness of public listed companies. The development of ERM by the Committee of Sponsoring Organization of Treadway Commission (COSO) in the US in 2004 is expected to prepare companies facing risks arising from weaknesses of the day-to-day operations, financial management, or imbalance planning (MohdAriff et al. 2011). Systematic implementation of ERM allows companies to identify, evaluate, and monitor all aspects of company risks (MohdAriff et al., 2011) and to achieve better profitability and financial position according to the target (MCCG, 2007).

Effective implementation of ERM is expected to minimize the external or internal exposures of risk which may upset the prospect and success of an organization in achieving its ultimate objectives (EbyRuis, 2009). Risks arising from the complexity and dynamics of business environments such as weak internal controls, inefficient management, fluctuating market demand, new business rivals, and unstable financial performance, may have negative effects on the organization (Dickinson, 2001). An organization makes accurate decisions and minimizes effects of risk through an efficient and effective ERMand achieves good performance (Spira& Page, 2003). Well managed risk may yield good returns and increase the economic value of organization (Nocco&Stulz, 2006). Ineffective ERM may, on the other hand, cause collapses of organizations such as those experienced in the United States in the 70s and 80s (Moeller, 2007). Losses suffered by organizations have put stakeholders under the regulatory enforcement pressure to monitor risks in order to protect the shareholders' interests (Beasley et al., 2005; Dickinson, 2001). The effectiveness of management and profitability of the operating activities may be enhanced by strengthening the existing rules and regulations with the aimof identifying, assessing, acting, and monitoring risks as well as avoiding negative impacts of risks on the achievement of the organization targets (Hasnah, 2004).

The establishment of ERM function and success of ERM implementation lies on the board of directors with a close involvement of the internal audit support (Stewart &Subramaniam, 2010). The internal audit may contribute to the readiness of the organization in the implementation of ERM in terms of setting up policies and procedures, developing review and feedback processes, establishing the follow-up measures and strategy, and enforcing the controlling mechanism. The elements of ERM implementation are in line with role of internal audit which covers the aspects of evaluating of internal controls, monitoring of corporate governance, and assessing risk management (IIA, 2009). An independent assessing governance and internal controls,identifying weaknesses of internal control, making recommendations on strengthening those weaknesses, and reporting the weaknesses and recommendations to the top management are the main functions of internal auditors (Hedley & Ben-Chorin, 2011; Schneider, 2009).

The question arises whether the involvement of internal audit in the implementation of ERM would have an influence on its effectiveness. Evidence shows that implementation of ERM has not been encouraging as a result of lack in management support. There is need for empirical evidence on the contribution of internal auditors on the success of ERM implementation. Thus, this study attempts to examine relationships between characteristics of internal audit and active contribution of the audit committee respectively and ERM implementation at the three different dimensions, i.e., the development of policy and procedures, the review and feedbacks process, the strategy and follow-up actions, which are treated as separate dependent variables. The practice of ERM is expected to help alleviate performance and competitiveness of listed companies within the current challenging economic environment.

2. Literature Review and Hypothesis Development

The Development of ERM

ERMrefersan overall risk management approach to business risks. The scope of ERM framework is broad covering the management of risk of every aspect of business that is linked to the performance of an organization. ERM comprises the process of assessing, controlling, exploiting, financing and monitoring risks for the purpose of increasing the stakeholders'value of organizations in all industries. Since its introduction in 1940s, theERM process and implementation in the business world has developed dynamically particularly after the financial scandal in 1970s and 1980s (Moeller, 2007).At the early stage, ERM focuses on the development of tools for handling financial risk in the finance industry (Dickinson, 2001). This is because financial risk became an important source of uncertainty for firmsarising from the volatility in foreign exchange rates, prices and interest rates.

In line with the COSO concept of risk management, the implementation of ERM begins with the setting up of risk management strategy and objectives by the top management (Hasnah, 2004). COSO suggests eight essential components of ERM which are the establishment of environmental control, formulation of objective, identification of events, valuation of risk, follow-up actions on risk, control activities, communication of information, and monitoring of the management(Hasnah, 2004).. The COSO ERM framework represents a complete and comprehensive process of risk management comprising the identification of the board of directors, management responsibility and monitoring features.

ERM and Economic Crisis

The economic crisis in South East Asia during 1997 and 1998 resulted in more widely practice of risk management. The recent incidences of the failure of big firms to compete, the incidence of high profile fraud cases and financial scandals are often associated with weak risk management (Norlida et al., 2010). Those incidences have awakened various parties to appreciate the need for managing risk. Gordon et al. (2009) investigated the risk management implementation of 112 companies. The information was obtained from the data base of the US Security and Exchange Commission' EDGAR. They found that the effectiveness of risk management implementation is significantly related to company specific factors such as the environment uncertainties, industry competitiveness, firm structure complexity, firm size and board monitoring effectiveness. Similarly, Hoyt and Liebenberg (2011) have identified that firm size, leverage ratio, institutional ownership, intangible assets, institutional ownership, shareholder value, and re-insurance contract are among factors that influence the implementation of risk management among 117 insurance companies in the US for period from 1998 to 2005. Results show that insurance companies which implement risk management achieve 4% higher value than those which do not implement risk management. Firm size, type of industry, leverage and type of equity ownership are important firm characteristics for the implementation of risk management. Firm size and institutional ownership contribute significantly to the success of risk management implementation. The study find risk management implementation of insurance companies negatively relates to leverage, re-insurance contract and amount of intangible assets.

Guidelines on ERM

To date a number of countries throughout the world have developed their own risk managementframework. For example, Australia and New Zealand have developed the

Australia/New Zealand Standards of Risk Management 4360: 2004, Canada prepared Risk Management Guideline Q850-97, and the US has developed risk enterprise management framework (COSO). The risk management standards and framework developed in these different countries have similar aims and objectives to identify and manage risk effectively (Shukri et al., 2011). The Australia/New Zealand Standards of Risk Management 4360 (2004) in Australia and New Zealand for instance, is adopted by organizations in all sectors including the government department, private sector and non-profit making since 2004 (Shrtreed, 2010). The standards emphasize that risk management needs to be practiced to avoid threats to the achievement or opportunities and is expected to enhance performance of an organization (AS/NZ 4360 2004). The framework outlines seven risk management activities including communication and consultancies, formation of policies, identification of risk, analysis of risk, evaluation of risk, respond to risk, and monitoring as well as review of risk management implementation (AS/NZ 4360, 2004). A framework-based risk management helps improve the transparency in the distribution of resources, shareholders' confidence, corporate governance practice and firm profit (AS/NZ 4360, 2004).

Other than the establishment of the risk management framework discussed above, the International Organization for Standardization (ISO) also has issued risk management standards (ISO 31000) in 2009. The standard was developed based on the combination of several important aspect of risk management including the COSO framework, the Canadian Standards Association (CSA) guidelines, and Australian/New Zealand 4360 Standards 2004 (Shortreed, 2010). The aim of ISO is to ensure that the implementation of risk management increases the firm value. The effectiveness of risk management is measured based on the difference between the benefit enjoyed by the organization and the costs incurred to manage risk (Shortreed, 2010). The firm management is responsible on each decision in managing efficiently the firm risk because ISO believes that efficient risk management is able to avoid corporate failure (Shortreed, 2010). The issuance of ISO 31000 also aims at making available universal framework to be used by all types of organization in different sectors either the public, private or non-profit organization. To date ISO has replaced Risk Management Standards 4360: 2004 which has been in use in Australia and New Zealand since 2009.

Practice of ERM and Firm Performance

The establishment and implementation of ERM are the responsibilities of the top management group including the board of directors and senior executives. The success of ERM practice is evident from a number of prior studies. The top management is responsible to create control activities required to reduce risk. Organizations that have implemented risk management are able to identify and evaluate the existence of aggregate risk around the activities and business (Hoyt & Liebenberg, 2011). The availability of risk information enables organizations to manage risk and distribute resources efficiently to different areas to increase returns on equity and to achieve the firm objective (Hoyt & Liebenberg, 2011). Hoyt and Liebenberg (2011) find risk management improves the financial performance of insurance companies in the US. Andersen (2008) also suggests the practice of risk management boosts the financial performance of firms in the research and development and services sectors. In Malaysia, Norlida et al. (2010) find that the shareholders' value of Bursa Malaysia listed companies is higher for companies that practice risk management than those that do not practice risk management.

ERM is yet to be practiced uniformly among listed companies in Malaysia. Currently, the implementation of risk management is encouraged as a good practice of corporate governance among Bursa Malaysia listed companies (MCCG, 2012). The sixth principle of corporate governance requires listed companies to set up an effective risk management (MCCG, 2012). The board of directors is responsible to disclose in the annual reports the status of internal control and risk

management of the company in line with the listing requirements of Bursa Malaysia. Most of the earlier studies on the implementation of risk management by companies in Malaysia apply the three principles of risk management introduced by COSO (MohdAriff et al., 2011). The three principles are the development of policy and procedures, review of risk management implementation, and strategy and follow-up actions (MohdAriff et al., 2011). The principle, the development of policy and procedures, covers activities at the initial stage of the implementation process of risk management. The activities include the formulation of objectives, the establishment of risk management policy, and the construction of board of directors' responsibility (MohdAriff et al., 2011). For the second principle, the review and feedbacks, companies are expected to investigate whether the risk management process is implemented in accordance with the specified procedures and standards. The third principle, the development of strategy and follow-up actions, requires the company to identify strategies over the identified risk and ascertain appropriate actions to be taken on the risk (MohdAriff et al., 2011). The follow-up actions of risk management involves monitoring activities which include the examination of the actual total costs of managing risk, comparison of the actual costs to manage risk with the estimated costs, review of controlling activities, and reporting to the board of directors (MohdAriff et al., 2011).

Some studies concentrate on how an effective risk management helps improve the firm performance. The empirical evidence shows positive effects of risk management on performance of companies in different forms including an increase in the share price or a decrease in cash outflow (Hoyt &Lienbenberg, 2011). Anderson (2008) and Hoyt and Lebenher (2011) find an effective risk management strengthens corporate governance through proper decision making processes. Anderson (2008) evaluates the effects of risk management on the firm performance using a sample of 1,369 firms from the research and development and knowledge service based industries listed on Stem-Steward Performance Top 1,000 and Compustat. By comparing the performance of firms which practice risk management and those which do not practice risk management, the study finds that the implementation of risk management results in high performance (Anderson, 2008).

Internal Audit Function

The role of internal audit which has been recognized by the Institute of Internal Audit in the United States since 1941covers three main aspects, evaluation of internal controls, monitoring of corporate governance, and assessment of risk management (IIA, 2009). The internal audit is essentially making an independent assessment on the governance and internal control of the company (Schneider, 2009). Internal auditors are given the responsibility of identifying weaknesses of internal control, making recommendations in strengthening those weaknesses, and reporting the weaknesses and recommendations to the top management (Hedley & Ben-Chorin, 2011). The role of internal audit in corporate governance monitoring is expected to increase the level of compliance with legal and standards requirements, effectiveness of custodian of assets, and reliability and accuracy of the financial and operational performance reporting of the organization (Hedley & Ben-Chorin, 2011). In addition, the internal audit is responsible to ensure that organization risk is effectively managed and monitored (IIA, 2004). The monitoring role is assigned to the internal auditors as a recognition to their knowledge on the organization overall operation and experience with the organization (Kinney Jr, 2003). The monitoring by the internal audit is expected to contribute towards the streamlining and strategizing the risk management activities (IIA, 2004). Recommendations made by the internal audit are expected to provide the board of directors with alternative approaches to enhance the effectiveness of the risk management process.

However, the involvement of internal audit in development as well as the implementation of risk management of an organization has created concerns among the professionals particularly the

Institute of Internal Audit (IIA). The risk management function of the internal audit may become a threat to its professionalism and independence (IIA, 2004). In addressing this issue, IIA has issued the Position Paper 2004 in September 2004 to clarify two roles in conjunction with the risk management role of internal audit, i.e., the role of assurance and the role of consultation. The assurance role relates to the reporting of the process and evaluation of risk management activities to the board of directors. The consultation role, on the other hand, relates to providing management guidance on the various actions against risk, risk assessment, and strategic risk management for the board of directors (IIA, 2004). In carrying out the roles, internal auditors are not permitted to perform services other than assurance and consultations.

Since its first establishment in the 90s, the function of internal audit has expended from reducing the agency costs to a broader role covering not only to ensure the validity of financial transactions but also to monitor fraudulent acts and to trace frauds (Adams, 1994). The expansion of the role of internal audit took place after the financial scandal in the global business whereby companies particularly in the US, now rely heavily on the credibility of internal audit to control and monitor the operational system of the companies.

Internal Audit Monitoring on ERM Implementation

From the agency theory perspective, the formation of internal audit is to resolve the problem of information asymmetry (Adams, 1994). Information asymmetry arises as a result of the separation between the principal, i.e., owner, and the agent, i.e., manager. The separation between owners and managers may result in a conflict of interest whereby managers generally make decisions that favor their own personal interest rather than for maximizing returns for the companies (Watts & Zimmerman, 1983). Managers who are given the authority to make decisions on behalf of the owners have unlimited access to the company information. In the contrary, owners have a limited access to the information, hence, unable to ensure that managers' decisions and actions are in compliance with the specified objective of the company and consistent with the policy and procedures agreed upon for the company. The imbalance access to information between owners and managers gives an opportunity to managers to use the information to satisfy their own personal interests instead of maximizing the wealth of the company (Watts & Zimmerman, 1983). This conflict of interests may consequently reduce the owners' wealth or lead to the company to collapse. Losses suffered by the company represent the agency cost which is to be borne by owners of the company (Adams, 1994). Companies must monitor all of their activities to ensure that they are conducted in accordance with the objectives, policy and standards of the company. Internal auditors are appointed as the monitoring agents to control misbehavior of managers on behalf of the owners (Watts & Zimmerman, 1983).

In the current economic environment, organizations are faced with diverse internal and external risks (Dickinson, 2001). Examples of external risk are inventions of new products, changes of customers' demands, instability of financial market, and changes in technological and political environment. Examples of internal risk are misappropriations of funds by employees, failure of internal controls, disorder of productivity, and inaccurate decision making (Dickinson, 2001). Internal risk normally occurs as a result of inefficient management of the organization (Spira& Page, 2003). Improperly managed external and internal risks may become a threat to the business operation and consequently cause business failures. Boards of directors are responsible that these risks are effectively managed to ensure the prosperity and sustainability of the business (Steward and Subramanium, 2010). IIA (2004) urge that the internal audit manages risk effectively in accordance with the specified monitoring rules and policies to protect the interest of the owners. Systematic, independent, and transparent monitoring by the internal audit is expected to help achieve the

objective of risk management (IIA, 2009). The involvement by the internal audit to monitor the ERM implementation process in accordance with COSO's suggestion is expected to support managers in managing risk effectively (Moeller, 2007). The significance of internal audit role in risk management is recognized by IIA as stated in the IIA Position Paper 2004 which discusses the responsibilities and limitations of internal audit role in practicing risk management of an organization (IIA, 2004). The Position Paper specifies that the internal audit is to be given the responsibility to evaluate ERM process, review the anticipated risk element, and give assurance to the board of directors whether the company risks are being properly managed (IIA, 2004). The internal audit is also assigned with the responsibility of helping the management in identifying risk, evaluating risk, aligning risk management, and recommending the strategy of implementing proper risk management (IIA, 2004). The role and responsibility of internal audit with respect to ERM is therefore expected to improve the firm performance.

Characteristics of Internal Audit

In this study, internal audit is examined in relation to its main characteristics which are expected to positively influence the implementation of ERM. The main characteristics of internal audit include competency, independence, and priority of work.

Competency of Internal Audit

The competency of internal audit unit or team is the key factor to its effectiveness (Cohen &Sayag, 2010). The success of controlling and monitoring roles of internal audit is determined by the competency of internal auditors (Hedley & Ben-Chorin, 2011). Competency refers to the characteristics of the internal audit which include the work experience, educational background, regular training, and professional qualification of internal audit members (IIA, 2009). Prawitt et al. (2009) argue that an internal auditor with audit experience and professional qualification is better able to restrict the practice of ERM. Competent internal auditors are capable of obtaining information and locating signals of earnings management (Prawitt et al. 2009). The monitoring by competent internal audit may be able to restraint the risk of earnings management (Prawitt et al 2009). The higher is the quality of service provided by internal auditors the lower would be the risk of earnings management. Internal auditors who understand the operating internal control system thoroughly are able to detect any weakness in the system (Shu Lin et al. 2011; Azzone 2009). Internal auditors who have the knowledge and experience in auditing are capable of ensuring that the system of internal control of the company, including risk management, is functioning at the optimal level.

The above view contradicts with that of Al-Shetwi et al. (2011). According to Al-Shetwi et al. (2011) factors of effective internal audit may not be applicable for the quality of internal audit which is operating in a weak governance environment. In the Saudi Arabia for example, the formation of internal audit unit is merely to fulfil the listing requirement of the stock exchange in the country. Results of the study suggest that listed companies in the Saudi Arabia do not utilize internal audit unit for the benefit of strengthening the corporate governance (Al-Shetwi et al., 2011).

Despite the above opposing view, competency of internal audit has become the yardstick that measures the effectiveness of internal audit. This view is consistent with results of prior studies such as Brown (1983), Messier and Schneider (1988), and Schneider (1984) who find that competency of internal audit is measured based on its professionalism, knowledge, experience and continuous training. Internal auditors of these characteristics are capable of helping trace any weakness in risk management for non-compliance with the standards and predetermined procedures of the company.

Based on the above discussions, it is argued that competent internal auditors in terms of having good knowledge, relevant work experience, professional qualification, and training are able to increase the effectiveness monitoring ERM implementation. Thus, the following hypotheses are developed.

H1: Competence of internal audit has a positive significance relationship with the implementation of ERM.

H1(a): Competence of internal audit has a positive significance relationship with the development of policy and procedures for the implementation of ERM.

H1(b): Competence of internal audit has a positive significance relationship with the development of responds and review procedures of the implementation of ERM.

H1(c): Competence of internal audit has a positive significance relationship with the development of evaluation of costs effectiveness and risk procedures of the implementation of ERM.

Independence of Internal Audit

Independence of internal audit refers to a situation whereby internal auditors are free from the influence of the management when performing the audit work and are able to make independent judgments in arriving at audit findings without any due influence by external parties (IIA, 2009). Independent internal audit enhances the credibility of audit report of the internal audit unit (Norman et al., 2010). Members of internal audit who are independent are able to produce unbiased reports to be submitted to the audit committee for a review (Mazlina&Subramaniam, 2007). In Malaysia IIA gives a serious emphasis on the element of independence which is argued to have an influence on the internal audit effectiveness.

Internal audit independence may be maintained if the internal audit reports are directly presented to the audit committee (Shu Lin, 2011). Independent internal audit ensures that the internal control system and risk management are updated in line with the development. More information on weaknesses of internal control is disclosed when the internal audit reports are submitted directly by the head of internal audit to audit committeeBedard and Graham (2011). Research findings show that the management intervention may have an impact on the credibility and ability of internal audit to perform the function effectively. The management influence may put pressure on the internal audit from acting professionally. This situation happens because the internal audit and the management belong to the same employer (Harrell et al., 1989). The presence of both the head of internal audit and audit committee in the same meeting may restrict the opportunity for internal audit to report the findings independently. Without the presence of the management representative in the meeting, the internal audit is expected to discuss its report with the audit committee more openly. The internal audit needs to be transparent in reporting weaknesses of the internal control and management systems. In an organization where the power gap between the top management and the subordinates is wide, the independence of internal audit is difficult to maintain. In such an environment, it is highly unlikely that the meeting between the internal audit and audit committee on the presentation of the report on internal audit findings is held without the present of the top management personal.

The above discussions indicate that independence is an important characteristic of internal audit to ensure that internal auditors are free from influence by the management when monitoring, assessing, and reporting the risk management implementation performance. Independent internal audit is expected to present their audit findings more transparently and abilities to help achieve the

plan of ERM implementation. The following hypotheses are therefore developed.

H2: Independence of internal audit has a positive significance relationship with the implementation of ERM

H2(a): Independence of internal audit has a positive significance relationship with the development of policy and procedures for the implementation of ERM.

H2(b): Independence of internal audit has a positive significance relationship with the development of responds and review procedures of the implementation of ERM.

H2(c): Independence of internal audit has a positive significance relationship with the development of evaluation of costs effectiveness and risk procedures of the implementation of ERM.

Work Priority of Internal Audit

The internal audit has a broad job specification covering different functional areas such as finance, operation, investigation, control, and compliance (Prawitt et al., 2009. The work priority given to any the functional area is reflected in the amount of time allocated to any specific assignment. The internal audit allocates more time on certain functional area that are claimed to be necessary to improve the performance of the company. The internal audit is expected to consistently devote more time that will enhance their knowledge and understanding on certain functional areas.

Prior studies indicate that the focus of the internal audit on the efficiency of the operation and internal control system reduces costs arising from external audit fees (Ho & Hutchinson, 2010). On the other hand the misstatements in the financial statements may be reduced if more time is given on the accuracy of financial records, financial reports, and accounting policies (Shu Lin et al., 2011).

The internal audit is also given the responsibility to ensure that the process of risk management implementation is run smoothly (IUA, 2004). The internal audit provides the consultation services on matters relating to risk management implementation. In meeting the responsibility, the internal audit is expected to give an effective control and monitoring. The involvement of internal audit in the implementation process of risk management requires the internal audit to give more focus and priority on the implementation process of risk management of the company. Thus, higher priority on risk management implementation is given by the internal audit the better is the readiness of the firm for the risk management implementation.

H3: Job priority of internal audit has a positive significance relationship with the implementation of ERM.

H3(a): Job priority of internal audit has a positive significance relationship with the development of policy and procedures for the implementation of ERM.

H3(b): Job priority of internal audit has a positive significance relationship with the development of responds and review procedures of the implementation of ERM.

H3(c): Job priority of internal audit has a positive significance relationship with the development of evaluation of costs effectiveness and risk procedures of the implementation of ERM.

Audit Committee Activeness

In Malaysia, the formation of risk committee among listed companies is not a mandatory listing requirement of the Bursa Malaysia. The responsibility of monitoring the ERM process lies on the risk committee if such committee exists. In the absence of risk committee, the ERM monitoring responsibility is given to the audit committee (Moeller, 2007). This is a common practice among listed companies in Malaysia because the formation of risk committee is yet to be widely practiced. In Malaysia, the audit committee is also responsible on overseeing the operation of internal audit including monitoring and reviewing the internal audit work plan, job scope and financial allocation (MCCG, 2012). Thus, the activeness of the audit committee is measured based on its active involvement with internal audit activities (Arena &Azzone, 2009). The monitoring action by the audit committee would warrant the role of internal audit to be implemented efficiently and effectively to ensure that the company attains high level performance.

Abbott et al. (2010) find that audit committees which are serious and strict in addressing weak or lack of internal controls are able to enhance the internal audit effort to effectively monitor the operation of company. A continuous review of the internal audit field work and reporting activities are expected to reduce misstatements of information in the financial statements and weaknesses in the corporate governance (Abbott et al 2010; Arena &Azzone, 2009). The audit committee application of strict controls may be executed through an active review of internal audit yearly plan and program. The audit committee review of the internal audit plan and reporting helps identify whether the objective of each internal audit monitoring program, including governance, internal controls, and risk management, has been successfully implemented or otherwise.

The success of a company in managing risk requires an overall monitoring of every aspect of ERM. The monitoring by the audit committee as a mechanism is important to ensure the management process meets the prescribed rules and regulations. Each type of risk needs to be identified, assessed, resolved, and reported to the interested parties (IIA, 20014). The review and supervision by the audit committee are to ensure that the role of internal audit is effective. Audit committees that actively review the work of internal audit are able to ensure that the internal audit activities are implemented as planned. Prior studies show that audit committees which actively review the internal audit yearly plan, activities, and reports contribute positively to the company performance in different ways. In this context, an effective monitoring by the audit committee on the work of internal audit helps identify weaknesses in risk management of the company. The monitoring of internal audit on risk management being supervised actively by audit committees is expected to result in the successful implementation of ERM. The following hypotheses are developed:

H4: Active audit committee has a positive significance relationship with the implementation of ERM.

H4(a): Active audit committee has a positive significance relationship with the development of policy and procedures for the implementation of ERM.

H4(b): Active audit committee has a positive significance relationship with the development of responds and review procedures of the implementation of ERM.

H4(c): Active audit committee has a positive significance relationship with the development of evaluation of costs effectiveness and risk procedures of the implementation of ERM.

3. Research Methodology

Research Design

This study uses a questionnaire survey. A survey is usedto obtain information directly from the selected respondents which is more accurate and reliable and generalizable although it may suffer from low response rate (Chua 2011). The questionnaire for this study was adapted from several other studies (MohdAriff et al., 2011; Shu Lin et al., 2011; Mazlina&Subramaniam, 2007). The questionnaire comprises five sections. The first section contains 38 activities items that measure the achievement level of ERM implementation at eight components of risk management, i.e., internal environment, determination of objectives, identification of events, responses of risk, control, dissemination of information, and monitoring. The secondsection includes questions on independence of the head of internal audit in reporting findings of internal audit work to the audit committee, priority of internal audit in risk management, perception of internal audit on the activeness of audit committee in reviewing the implementation of risk management, following-up and monitoring actions. The third section contains questions on the background information of respondents, organization and characteristics of internal audit.

Operationalization of Variables

Dependent Variables

The dependent variable of this study is the implementation of ERM. The achievement in the implementation is measured based on the percentage of its completion of each component activity(MohdAriff et al., 2011). The list of the items is in Appendix 1. The implementation activities areclassified into three categories; policy and procedures, responds and review, and evaluation of cost effectiveness. Each category represents a different dependent variable. The achievement level is measured on a 100-point Likert scale ranging from0(not implemented) to 100 (fully implemented) (Ariff et al., 2011). The instrument appropriately measures the ERM implementation as it assigns the weightage according to a real environment (Jackson, 2011).

ERM Policy and Procedures

At the early stage of the implementation policy and procedures of ERM are developed to properly establish methods or techniques of identifying risk. A firm must establish the risk response policy and reporting procedures of ERM. The identification of risk is made after considering and understanding the risk appetites of the key groups of stakeholders. Risk appetite refers to the amount of risk that an organization is willing to take on in pursuit of value (KPMG, 2008). Risk appetite provides information on the total impact of risk an organization is prepared to accept in the search of its strategic objectives to guide an organization in approachingand managing risk (KPMG, 2008). A clearly defined risk appetite may become a powerful tool for risk management and enhancement ofthe overall business performance. Achange in the risk appetitemay require reassessment of risk procedures to incorporate a critical evaluation of consequences of individual risk of an organization. Proper reassessment procedures must be established to ensure the effectiveness of risk management implementation.

ERM Review and Feedbacks

Review and feedbacks of ERM refers to procedures to establish responds to risk either by accepting risk, sharing risk, or by avoiding risk. The responds are based on the management

valuation of the costs of risk, estimates of shared or reduced risk, and estimates of risk probability and frequency. The management also needs to establish procedures to revise the different types of estimates i.e., impact of cost of risk, procedures of sharing and / or reducing risk, and for risk probabilities and frequency. The management must ensure that firms utilize the established risk evaluation techniques for the best or worst case scenarios.

ERM Strategy and Follow-Up Actions

The third stage of the implementation of ERM involves the establishment of procedures for the evaluation of costs effectiveness and risk. It involves the measurement of actual cost incurred for risk response, measurement actual occurrences of all risk, evaluation of the actual cost impact of risk sharing or reduction with the estimate, performance of separate risk evaluations by comparing actual event occurrences with estimates, assessment of the total risk cost, i.e. cost of risk impact and cost of control activities, and evaluation of all costs related to the control activities. This implementation stage is important to prepare the organization with the system of evaluating the effectiveness of the ERM implementation. The effectiveness and overall cost of ERM processes is reported to the board of directors by the chief risk officer or other responsible executive.

Independent Variables

Four independent variables of this are competency of internal audit, independence of internal audit, work priority of internal audit, and the activeness of audit committee.

Competency of internal audit

For the purpose of this study, the internal audit experience is determined by the number of years working as either internal audit or external audit (Prawitt et al 2009; Shu and Lin et al 2011).

Independence of internal audit

Independence of internal audit is measured using a dummy scale. Internal audit is expected to be more independent when the CEO did not attend the meeting between the chief of internal auditor and the audit committee for the purpose of presenting the internal audit report to the audit committee. A code of 0 is given when the CEO is present at the meeting. A code 1 is given when the CEO is not present at the meeting.

Work priority of internal audit

The work priority of internal audit is identified based on percentage of time allocated on risk management relative to the total number of time of internal audit work (Abbott et al. 2010; Ho and Hutchinson 2010).

Activeness of Audit Committee

The activeness of audit committee is measured based on the perception of internal auditor on the involvement of audit committee in reviewingthe internal audit annual plan and reporting, and monitoring and controlling internal audit activities (Arena and Azzone 2009). The participating internal auditors are required to rate the audit committee involvement on a 5-point Likert scale ranging from 1 not active to 5 very active.

Control Variables

The timeline of the implementation of ERM is identified as the control variable. Beasley et al (2005) and Hoyt and Liebenberg (2011) suggest that timeline of the activities has a significant influence on ERM implementation. The variable in measured on a scale of four scores. Score 1 is for an implementation of less than 2 years, score 2 for an implementation of 2 years and less than 4, score 3 for an implementation of 4 years and less than 5, and score 4 for an implementation of more than 5 years.

4. Results

Sample

The study includes hundred and seventy four companies listed on Bursa Malaysia across different industries except for the finance industry. Companies in the finance industry are excluded due to stringent Bank Negara Malaysia rule and regulation (Ho & Hutchinson 2010; Abbott et al 2010). Companies that do not have their own internal audit unit or outsource their internal audit services to external parties are excluded. Only eighty two questionnaires (18.34%) are finally usable.

Selection and Analysis of Sample

Particulars	**No**
Companies listed on Bursa Malaysia on 21 March 2012	842
Less: Companies in the finance industry	(47)
Companies that outsource internal audit services to external parties	(421)
Final sample and distributed questionnaires	374
Returned questionnaires	86 (100%)
Incomplete questionnaires	4 (4.65%)
Usable questionnaires	82 (18.34%)

Results of Factor Analysis

The study performs two separate factor analyses to test the validity of the measurement of ERM implementation and activeness of audit committee. Results of analyses are presented in Table 1 and Table 2 respectively.

Factor Analysis on the Measurement of ERM Implementation

The implementation of risk management involves three different dimensions: (1) the preparatory stage involving the establishment of policy and procedures on reporting, risk response and reassessment, identification techniques, and line of responsibilities; (2) the formulation of risk evaluation and response techniques, and revision of estimates; and (3) the development of the measurement and evaluation of actual and estimated costs and risk occurrences. This study examines the contribution of internal audit to implementation of each dimension of ERM.

Factor analysis on the measurement of ERM shows a significant result at $p=.000$ and high KMO value of 84.7% indicating sampling sufficiency (Fah and Hoon 2010). See Table 1. Results

indicate that 23 out of 38 activity items are suitable to measure the implementation of ERM. The results show that the first factor links to the development of policy and procedures in preparation of ERM implementation. The second factor relates to development of strategy and follow-up actions in managing risk. This includes responding procedures to accepting, sharing, and avoiding risk as well as revising estimates of the value of risk and costs of the implementation. The third factor relates to evaluation of the costs incurred and risk occurrence. The results support the use of three dimension of ERM implementation in this study.

Table 1 Results of Factor Analysis of ERM Implementation Activities

No. of Activities	Implementation Activities of *ERM*	Components		
		1	2	3
4	Set responsibilities in relation to ERM for all board members and senior executives	**0.815**		
19	Establish policy to ensure risk response is effectively carried out	**0.813**		
20	Implement the above risk response policy	**0.800**		
10	Critically evaluate the consequences of each individual risk	**0.798**		
1	Consider and understand the risk appetites of the key groups of stakeholders	**0.793**		
12	Establish proper methods or techniques to identify risk	**0.777**		
35	Reassess risk identification by considering any changes on the organization's risk appetite, objectives and strategies	**0.717**		
31	Establish periodic reporting of ERM	**0.705**		
25	Determine the control activities required to reduce risk	**0.691**		
32	The effectiveness and overall cost of ERM processes is reported to the board of directors by the Chief Risk Officer or other responsible executive	**0.688**		
21	Responds to risk by accepting risk		**0.857**	
23	Responds to risk by sharing risk		**0.816**	
38	Revise estimates for cost impact		**0.807**	
22	Responds to risk by avoiding risk		**0.804**	
37	Revise estimates for shared / reduced risk		**0.726**	
36	Revise estimates for risk probabilities / frequency x		**0.702**	
18	Utilize the following risk evaluation techniques best/worst case scenarios		**0.654**	

30	Measure actual cost incurred for risk response	**-0.939**
29	Measure actual occurrences of all risk	**-0.899**
34	Evaluating the actual cost impact of risk sharing or reduction with the estimate	**-0.849**
33	Perform separate risk evaluations by comparing actual event occurrences with estimates	**-0.824**
28	Assess the total risk cost, i.e. cost of risk impact and cost of control activities	**-0.803**
26	Evaluate all costs related to the control activities	**-0.712**

Adequacy sampling measure (KMO)	0.847
Kesferaan Bartlett Test	1704.6
Significance	0.000
Total explained variance	68.35

Factor Analysis on the Measurement of Audit Committee Activeness

Results of factor analysis for activeness of audit committee in Table 2 show that all the items measure the activeness of audit committee with factor loading of more than .87. It show that audit committee activeness involves regular reviews of internal audit annual plan, reports, and controlling and monitoring activities. Thus, the instrument provides an accurate measure of audit committee activeness.

Table 2 Results of Factor Analysis of Audit Committee Activeness

No. of Items	Audit Committee Activeness	**Component**
1	Audit committee reviews the internal audit annual plan	**0.958**
2	Audit committee reviews the internal audit reports	**0.951**
3	Audit committee reviews the monitoring and controlling of the internal audit activities	**0.870**

Adequacy sampling measure (KMO)	0.701
Kesferaan Bartlett Test	213.26
Significance	0.000
Total explained variance	85.97

Test of Data

The study tests the normality of data based on skewness and kurtosis tests (Fah and Hoon 2008). Results of the tests are presented in Table 3. The table shows all variables except activeness of audit committee are normally distributed with the values ranging between -1.126 to 0.016. Skewness and kurtosis values of activeness of audit committee are -3.34 and 13.74 respectively indicating that the data is not normally distributed resulting from extreme data (Fan and Hoon 2008). The study uses Winsorizing method to transform the data (Chua 2009). Results of normality test of the transformed data are shown in Table 4.

Table 3 Results of Normality Test

Variables	Skewness	Kurtosis
Risk Management Implementation:		
i. Development of policy and procedures	-1.126	.715
ii. Strategy and follow-up actions	-.030	-.954
iii. Review	-.598	-.596
Competency	.016	-.665
Independence*	TB	TB
Work priority	.947	.093
Activeness of audit committee	**-3.340**	**13.738**
Period of risk management implementation*	N/A	N/A

Note: *N/A – Not applicable because it a dummy and categorical variable

Values of skewness and kurtosis of activeness of audit committee of -1.312 and 1.039 respectively indicate that the data are normally distributed.

Table 4 Results of Normality Test After Transformation

Variables	Skewness	Kurtosis
Risk Management Implementation:		
i. Development of policy and procedures	-1.126	.715
ii. Strategy and follow-up actions	-.030	-.954
iii. Review	-.598	-.596
Competency	.016	-.665
Independence*	TB	TB
Work priority	.947	.093
Activeness of audit committee	-1.312	1.039
Period of risk management implementation*	N/A	N/A

Note: *N/A – Not applicable because it a dummy and categorical variable

Test of Multicollinearity

Results of multicollinearity test using Pearson linear correlation in Table 5 show correlation values of all variables range between .017 and .518. Results indicate that multicollinearity is not a problem for this study since the values of correlation coefficient are below .90 (Fah and Hoon 2008; Burns and Burns 2008).

Table 5 Correlation Analysis between Variables

	Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	ERM Development of policy and procedures	1						
2	ERM Strategy and follow-up actions	.410**	1					
3	ERM Review	.518**	.447**	1				
4	Competency	.155	-.017	.194	1			
5	Independence	-.277*	-.236*	-.347**	.100	1		
6	Work priority	.204	.060	.106	-.049	.021	1	
7	Activeness of audit committee	.259*	.073	.153	-.035	.029	.040	1
8	Period of risk management implementation	.395**	.130	.128	.024	-.210	-.025	-.036

**Significant correlation at 0.01 (2-tailed) *Significant correlation at 0.05 (2-tailed)

Descriptive Statistics

Results of descriptive statistics in Table 6 show that, on the average, listed companies under study have completed about 77% of the development work on the development of policy and procedures, 60.7% of the responds and review strategy, and 52.1% of the evaluation of costs effectiveness and risk. The table also shows that mean of competency of internal audits is 2.72 of a 4-point Likert scale. On the average internal audit spends about 14% of the time assisting the management with the implementation of ERM. Descriptive statistics show that mean value of activeness of audit committee is 4.63 measured on a 5-point Likert scale indicating that audit committees are actively reviewing the internal audit function of the companies. About 85% of the meetings of head of internal audit and audit committee are attended the management representatives. The presence of the management representatives reduces independence of internal audit. The table shows that about 39% of the companies have started the implementation of ERM for more than five years and about 41.5% for less than four years.

Table 6 Descriptive Statistics

Variables	Range	Minimum	Maximum	Mean	Std Dev
Panel A: Dependent variables					
Development of policy and procedures	0-1	0.21	1.00	0.770	0.207
Review and feedback	0-1	0.00	1.00	0.607	0. 286
Strategy and follow-up actions	0-1	0.00	1.00	0.521	0. 274

Panel B: Independent variables					
Competency	0-4	1	4	2.72	0.821
Work priority	-	0.04	0.35	0.14	0.762
Activeness of audit committee	1-5	3.33	5.00	4.63	0.462

	Frequency	Percentage (%)
Independence:		
Meetings without the presence of management representative	12	14.6
Meetings with the presence of management representative	70	85.4
Panel C: Control variable		
Period of risk management implementation		
Less than 2 years	13	15.9
2 to less than 4 years	21	25.6
4 to less than 5 years	16	19.5
More than 5 years	32	39.0

Regression Analysis

Results of the regression analysis are presented in Table 7. A separate regression is run on each phase of ERM implementation. Results for each regression analysis are presented separately in three different columns in the table.

Competency

Results show significant positive relationships between competency the implementation of ERM in the development of policy and procedures at *p=.045* and for the strategy and follow-up actions at *p=.020*. The higher the competency level of the internal audit unit the higher the implementation achievement level in the formulation of policy and procedures as well as in the setting-up of strategies and follow-up actions. Competent internal audit reflects the amount of specific job experience and knowledge, training and professional qualification enable them to help achieve the implementation of policy and procedures which include establishment of risk policy, board responsibility, preparation of regular reporting, and enforcing control activities. Internal audit competency measure their effectiveness and efficiency in providing ideas and consultancy for the organization. The result is consistent with Prawitt et al (2009) who find that the existence of competent internal auditors helps reduce earnings management problems. Shu Lin et al (2011) also find that highly qualified internal audit members help detect material weaknesses in financial statements.

Independence

Results indicate significant relationship between independence of internal audit and each of the three stages of ERM implementation i.e., ERM development of policy and procedures (*atp=.016*), ERM review & feedbacks (*at p=.055*), and ERM strategy and follow-up actions (*at p=.001*). However, the relationships are in the direction opposite to that suggested in the hypotheses. The results suggest that the higher is the level of internal audit independence the lower is the achievement level of ERM implementation. Thus, results do not support the hypothesis. This finding is in line with the belief of power distance among people in Malaysia. As Mazlina and Subramaniam (2007) argue that the high power distance among people in Malaysia makes it impossible for the internal auditors to hold open discussions or expressing independent views on issues to the audit committee without the knowledge of the management. Results may have been confounded by effects of culture (Hofstede 1984). Thus, further research may be able to confirm this concern.

Work Priority

Work priority of internal auditors has a significant positive relationship with only with ERM development of policy and procedures. The relationship between work priority of internal audit and ERM review and feedbacks and ERM strategy and follow-up actions respectively is not significant. ERM development of policy and procedures is the initial stage of preparing the implementation of ERM. The focus is on development of policy, setting-up main objective, responsibility of the board of directors and officers and rule on reporting. Internal audit require sufficient amount of time in order to be effectiveness in identifying and managing risk according to specified rules and regulations. Given sufficient amount of time, internal auditors should be able to propose suggestions for improvements. Effects of work priority seem to be apparent for ERM implementation at development of policy & procedures rather than at the review & feedbacks and strategy and follow-up actions stages of ERM implantation.

Audit Committee Activeness

The role of active audit committee significantly and positively affects ERM implementation at the (at *p=.004*) development of policy & procedures and strategy and follow-up actions (at *p=.099*). The results support H4a and H4c. Results suggest that the more attention is given by the audit committee on internal audit activities and reports the better is the ERM development and procedures. An audit committee active monitoring ofthe activities of internal auditors enhances the firm performance and achievement (Abbott et al 2010). An overall evaluation by the audit committee on the focus, program aims, and annual plan of internal audit enable the committee to give views and criticism that lead to improvement of internal audit function and the firm performance (Scarbrough et al 1998).

Table 7 Results of Regression Analysis

	Expected direction	ERM_DPP		ERM_REV		ERM_S&F	
Variables		**β**	**P value**	**β**	**P value**	**β**	**p value**
Panel A: Independent variables							
Competency	+	.190	**.045**	.009	.934	.242	**.020**
Independence	+	-.234	**.016**	-1.952	**.055**	-.367	**.001**
Work priority	+	.216	**.022**	.064	.566	.120	.240
Activeness of audit committee	+	.277	**.004**	.080	.470	.170	**.099**
Panel B: Control variable							
Period of risk management implementation		.357	**.000**	.087	.443	.054	.607
R^2		.351		.073		.220	
Adjusted R^2		.308		.012		.169	
N		82		82		82	

ERM_DPP -ERM development of policy & procedures
ERM_REV - ERM review & feedbacks
ERM_S&F- ERM strategy and follow-up actions

5. Conclusion

Overall, the study shows that ERM is being implemented by listed companies in Malaysia. About seventy seven percent of these companies are at the stage of preparing the development of policy and procedures such as forming the policy, identifying risk, establishing responsibilities, setting up control and procedures of the preparation of financial statement. About sixty percent of the selected listed companies have successfully implemented review activities and about fifty two percent have reached the final stage of ERM i.e., the aspect of strategy and follow-up actions. The implementation of ERM involves three different stages, firstly development of policy and procedures, secondly review action, and thirdly the strategy and follow-up actions.

The role of internal audit is significant as the monitoring agent of ERM of an organization. This study finds a significant contribution of internal audit in the implementation of ERM particularly at the initial stage i.e., at the development of policies and procedures. The internal audit role is relatively less significant at the later phase of ERM implementation i.e., at the phase of strategy and follow-up actions or even at the phase of review and feedback. Three internal audit characteristics that help enhance its effectiveness are competency, work-priority and activeness of audit committee in monitoring and reviewing the work of internal audit. This shows that participation of internal audit in the ERM implementation is necessary particularly at the stage of setting up the implementation program. However, the results show that internal auditors who wish to maintain their independence may not be involved in the implementation of ERM. This argument is in line with the notion that internal auditors' active involvement in the implementation of ERM may reduce the effectiveness in their controlling and monitoring roles.

This study has some limitations. This study focuses on companies that have their own internal audit units or departments. Companies which outsource the internal audit service to outside parties are excluded from the sample. Since the number of companies that obtain internal service through outsourcing mechanism is large, it is necessary to also examine the extent outsourcing services of internal audit help those companies implement ERM. Future research should include in the sample all companies with and without internal audit, and those which outsource the internal audit services in order to gain fairer understanding on the contribution of internal audit on ERM implementation.Based on the data, only about seventy seven percent of the sample companies are at the stage of preparing the development of policy and procedures such as forming the policy, identifying risk, establishing responsibilities, setting up control and procedures of the preparation of financial statement. Since alarge part of the sample has not fully implemented ERM,it becomes a limitation to result of this study.

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