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Internal Audit & Enterprise Risk Management

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Abstract

The purpose of this study is to investigate the association between internal audit and enterprise risk management. This study provides empirical evidence that shows the coordination of Enterprise Risk Management (ERM) and internal audit. The data was collected from non-financial 165 companies listed in Kuala Lumpur Stock Exchange during the period 2010 to 2017. Consistent with prior research, the indexing approach is employed to measure the degree of ERM adopted by the firms. For the regression analysis, this study used the Binomial and Poisson models to examine the relationship of internal audit and enterprise risk management. Our regression results are consistent with our hypothesis as ERM has a positive relationship with internal audit and audit committee. Both of our independent variables have a positive and significant relationship with ERM. Overall the results are positive and consistent with the approach of adopting ERM.

Keywords: *Enterprise risk management, audit committee, internal audit, corporate governance.*

1. Introduction

This study empirically investigates the constraints of internal audit while implementing ERM in Malaysia, where corporate governance is highly enforced by the regulatory bodies. This study investigates the level of adoption of ERM in Malaysia and the resistance experienced by the firm while implementing and practicing the ERM due to the activities of internal audit. This research also considers that there may be conflict between the governance of internal audit and ERM.

Since the Institute of Internal Audit (IIA) include the assurance and consulting activities of risk management, control and governance, and revise its definition from IIA to (IIA, 2009), it has become the international agenda to adopt the ERM. It was realized that internal audit has a major supporting role in the development, implementation and operations of ERM (Arena & Sarens 2015). And it is also assumed that the involvement of internal audit with ERM will add value the firm in terms of securing the shareholders' investment. It is also a threat that the increase involvement of internal audit can lose the confidentiality of internal audit department as it is an independent department of the firm and directly report to the board.

ERM become the most popular concept around the world in recent years as it was considered as the mandatory part of corporate governance for listed companies. As a results of rising expectation with respect to the effective risk management, organization required to adopt the ERM rather than the conventional silos approach that they were using for risk management in which every individuals are involve in managing risk in their capacity (Hoyt & Liebenberg 2015). There is a conflict arise between risk management and internal audit as the internal audit professionals take the risk-based approach that have a significant influence in ERM process. Therefore, internal audit professionals may create hurdles in the process of ERM as it may affect the responsibilities of internal audit professionals.

However, the internal audit has interest in the implementation of ERM, there has been an ongoing debate on the role of internal audit function in ERM. Previously the internal audit professionals make a call to research about the influence of ERM in the in the operational activities of internal audit, as a result the

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institute of internal audit issue the code of guidance for internal audit that defines the proper role of internal audit in the area of ERM.

The purpose of this study is to add the understanding of relationship between ERM and internal audit. Our objective is to examine the behavior of internal audit function due to the adoption of ERM on the bases of empirical results. We also discover that the impact of ERM on internal audit is different on every stage of development. The degree of involvement in ERM is seeking attention of the organizations in order to assist management, board of directors and audit committee. On the other hand, some conventional approaches argue that risk management should be traditionally controlled by finance and insurance department. Some of the positive approaches encourages the ERM and explain that the role of internal audit in developing and implementing the ERM is vital as it monitors all the component of ERM framework.

In today’s world, one of the fundamental concerns of the business organization is to implement the ERM system. As the world is emerging so fast as the innovation in financial products, rapid growth in IT market, increase in globalization, changes in governance models, etc. all required the integrated risk management system. Previously during the financial crises of 1997, Malaysian firms had to face difficulties in surviving due to poor risk management (Soltanizadeh et al., 2016). These risks include organizational risk, reputational risk, operational risk, compliance risk, market risk, which was mainly due to the lack of corporate governance in the area of risk management.

As ERM is a mature concept now, therefore it is fully implemented by most of the Malaysian companies. It is now easy to implement ERM because all the obstacles in the accomplishment has been defined by academic researchers. Adopting ERM is no longer an issue for organizations, it is left with just a decision taken by the board and management must follow accordingly. The acceptance level of ERM is surprisingly high and companies are keen to adopt it except those who has small scale business and others whose ownerships are uneducated and reluctant to move with the emerging business tools. Previously a study indicates that, a wrong perception evolves in the market that the adoption of ERM breakdown the reporting of internal auditors with respect to the risk management. However, if the relationship of audit committee is strong than ERM cannot affect the supremacy of internal audit.

Since ERM widely practiced in Malaysia, the scholarly researches and evidences shows that the relationship of ERM program with the related determinants is consistently positive. Moreover, it will provide the protective environment for investors and shareholders and a positive sign for the growth of the company. In some cases, it is found that the firms are not interested in adopting ERM. The reason behind is the traditional approach that create hurdles in the adoption of ERM. Mostly it is opposed by the old school thoughts who feel insecure or unable to compete with the modern systems. In some cases lack of knowledge and understanding of old employees oppose the adoption as they are unable to realize the effectiveness and benefits of risk management and have no idea how to measure the risk and the corresponding elements within the firm (Bromiley et al., 2015).

2. Literature Review

The history of internal audit practices is very old but its methodology of achieving results happened to change over time. These methods used to develop and monitor by the firm’s internal mechanism called internal audit function. The objective required by this mechanism is to strengthen that internal audit can provide in a specific manner that assist the management and audit committee in a same time without violating the defined frameworks. Previously most of the risk management activities were also handled by the internal audit department before the introduction of the ERM. In 2005, a global survey was conducted by the research foundation related to ERM which showed that around 36% of the firms across the world left the internal audit responsible for risk management activities. Previously a survey conducted in United Kingdom based on the interviews of finance directors, internal auditors, audit committee chairs and risk directors that emphasis that internal audit can be heavily involved in ERM (Ludin et al., 2017).

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It is addressed by the international guideline that internal control systems are ultimately the responsibility of board of directors. However, it is often assumed that board members may sets the tone of work in organization that would be followed by management. Risk management is the underline responsibility of internal control system. The fundamental of risk management is based on risk assessment which have three step procedure that is designed, operate, and monitor. It is suggested by the experts that the effectiveness of the internal control system should be reviewed at least twice a year and this job usually designate by the board of directors to audit committee. Effective internal control system penetrate in the operation of the firm with the aim of developing the risk free culture by strengthen the firm to face the risk arising due to the changes within the firm or in the business environment (Meyer et al., 2017). Internal control should be unshakeable component of the moral economy of an organization (Roussy & Brivot 2016). As the internal control system has become the part of corporate governance due to the debates on public policies, the demands of regulatory accountabilities have increased by the investors. It results in the development of corporate governance reports and reforms in internal audit practices and emphasis on ERM McNulty & Akhigbe (2017).

It was clearly defined by the institute of internal audit that the activity of evaluating the risk management should be the responsibility of internal audit department. Although the internal auditors are a bit exhorted in the literature to contribute in the development of ERM. Therefore, the contribution of internal auditor always come first in the in the literature in terms of achieving this corporate objective. Previously, Mohanna & Chambers (2018) argued that there is an increasing trend to the references of risk management in the professional journals in terms of internal audit over the last decade. It is an achievement for internal auditors that they are identically reframing due to their role in the contribution of ERM.

However, a series of research has investigated the value relevance of ERM, and the results were positive with respect to the listed companies. Mostly the results were consistent with the data of listed companies. Some of the scholars suggest that the listed companies should have more developed and mature risk management system as compare to non-listed firm specially to protect the minority shareholders. Since the results related the adoption of ERM for private companies is not consistent as ERM is time and context specific and especially depends on the departmental capabilities and willingness, whereas the management of private companies may not interest about adopting ERM.

During the last decade a vast level of changes appears in risk management systems within which the investors have a great level of interest. Intellectuals and consultants had to experience the revolutionary and progressive change from isolated system to more comprehensive and coordinated system that include all kind of risk management commonly known as ERM (Brustbauer, 2016). ERM program encounter all kinds of threats a company can face from the spectrum of risk. This new approach enables the firms to tear the traditional balloons and go beyond the conventional accounting practices in order to achieve the strategic goals (Mafrolla et al., 2016). ERM become more popular after the last economic global crisis and especially foreign investors are concern about risk management system (Karaca et al., 2018). In developed countries ERM is considered as the competitive tool and the source of organizational development (Florio & Leoni 2017). Standard and poor started measuring the degree to which the insurance companies implementing the ERM program in the year 2007 when the prominent financial scandals floating around in the financial market (White et al., 2019). However standard and poor initiated the analysis of ERM for the credit rating process of non-financial companies. These days ERM is a mandatory part of corporate governance for listed companies (Rana et al., 2019). Drogalas & Siopi (2017) explain that, it is the assumption of corporate governance guidelines that the objectivity of risk is as simple as it can be easily identified, quantified, and in the end strategically managed. As a result, internal auditors are dependent on those who have the knowledge related to internal controls and have techniques in risk management. Hence, the auditors become the source of power which enable them to play their role proactively within their organization. These are the scholarly suggestions for the auditors of Malaysian companies in context of maintaining their leading role in internal controls and support the development of ERM as well.

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In 1999, KPMG one of the BIG4 audit firm of the world conducted a study in US recognize that the best way to determine the success or failure of an organization is to refocus the internal auditor towards the risk management. This is the way the auditors can contribute in the exposure of current emerging business market. To compete in the arena of risk management auditor should be aware of key business risk and have a better understanding of every activity that impact both ways good or bad on the shareholders' value. Internal auditor should design their internal control system in such a way that respond them relevantly, sufficiently and timely with respect to the activities of ERM. In this manner internal auditor can have an early response on internal auditors' responsibilities assess them properly. Moreover, it is permitted by the executives that internal auditors can play their part in the development and stability of risk management rather than focusing only on audit compliance.

There are eight components of ERM framework that are given below:

- Internal environment
- Objective setting
- Event identification
- Risk assessment
- Risk response
- Control activities
- Information and commission
- Monitoring

It is the general assumption that all eight components of ERM framework are influence by the internal audit function. Unlike internal audit naturally focus only on risk and controls. Therefore, they don't have any predefined method or procedure in internal audit function for the development of ERM (Barton & MacArthur 2015). Due to this controversy, the institute of internal audit (IIA) issued a memorandum in which they explained that how and at what extant the internal audit should involve in ERM in order to maintain its independence and objectivity.

There are two studies published by the research foundation of institute of internal audit explaining the deepen role of internal audit function in ERM. First survey was performed in year 2000 with all the management executive including internal auditor. The survey report was consisting of the remarks of 130 executive that explain that internal auditors were involve in ERM committee and in 32 % of the organization internal auditors are working as a team in ERM process (Grace et al., 2015). However, this survey provides the descriptive analysis of internal audit and ERM. The main objective of institute of internal audit is to focus on the development of ERM without or minimal involvement of internal audit.

The second study was comprising of the descriptive information regarding the role of internal audit with respect to the ERM process. This information was dig out from the five leading companies namely, General Motors, WalMart, FirsfEnergy Corporation, Unocol and CanadaPost Corporation (Subramaniam et al., 2015). This study finds the fundamental role of internal audit in the foundation of ERM while implementing and highlight the role of internal audit in these five organization on a case by case basis. It is also identified that internal audit function of each company involve in ERM in its own way as there is no defined standard of internal audit and ERM. This study also explains the role of chief internal auditor in these five companies as the significant role in the leadership of ERM process (Subramaniam et al., 2015).

Besides that, there are two more studies that provide the insight development of ERM and internal audit function. First study was based on the descriptive statistic of the adoption of ERM and specifically the role of internal audit in in the development of ERM Callahan & Soileau (2017). The results were positive as the 48 % of the companies have finished or have partial ERM framework in their place. The study also indicates the positive relationship of internal auditor and chief risk officer in achieving the mutual aim of implementing ERM. Moreover, the study provides the evidences that shows that internal auditors were

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engage in coordinating with several other parties in order to assist in risk identification, suggesting procedures to control the risk and oversee the ERM process.

Second study was examined by (Mohammadi & Shirzad 2016) in which the role of internal audit was examined with respect to the ERM whether it is according to the framework of institute of internal audit. The evidences show that the activities of internal audit with ERM are consistent with respect to the guidelines given by the institute of internal audit.

In the light of previous studies which focus on the relationship of ERM and internal audit, this study run the regression with different constrains of ERM to check the relationship with internal audit. Using this technique, we will explore other factors that also influence the relationship of ERM and internal audit. In other words, this study will investigate the other organizational characteristics that impact the relationship of ERM and internal audit. It is our expectation that organizations are keen to fully adopt the ERM, but it will put the great responsibility on internal audit as their functions are interlinked. For instance, the more the ERM is implemented the greater the responsibility of internal audit to monitor.

However, the responsibility related to the implementation role of ERM is demand by the audit committee and senior management to place on internal audit function. It is argued by the ERM proponent that the fully implementation must be embraced by the board of directors or at least the senior management in order to make it effective (Barton & MacArthur 2015). It is suggested by the (Barton & MacArthur 2015) that it cannot be possible to get succeeded in the initiative of ERM without the support of senior management. Previously, (Brustbauer, 2016) noted that the ERM process were led by the board of directors and they are personally involved in the adoption activities. It is an expectation that senior management and board of directors should demand the internal audit to influence in ERM process and increase its procedural activities related to ERM.

3. Hypothesis

It is a general assumption that ERM does have a direct relationship with internal audit. Therefore, ERM somehow dependent on internal audit for implementation, monitoring and operation. Thus, it is argued by the expert that the internal audit should not be involve much in ERM as it may lose its objectivity and especially for those roles that are not approved by the institute of internal audit. Therefore, the internal auditors are unable to provide the detailed breakdown of the risk management process to the audit committee as they are not heavily involved in it.

However, risk management can also not be implemented without the intention of board, management and audit committee. So, there are two scenarios for internal auditor with respect to the ERM either they involve in it or not. If they are not directly involved in implementing ERM procedure than they must provide the detailed description to the audit committee for those procedures the ERM using. If they are involved in implementing risk procedure than they must provide the detail procedures to the audit committee and in case any weakness exists, it would be the question on the performance of internal audit. In both scenarios the expected breakdown report of internal audit would be totally different as in first scenario they try report adversely as they would be the party and in the second scenario the report expectedly favorable as internal audit would be accountable for risk management. So, our hypotheses are

H1: internal audit is positively related to ERM.

H2: Audit committee is positively associated with the ERM.

4. Methodology

The sample data is collected from the web sites of companies listed on the stock exchange of Bursa Malaysia. This data is comprising of non-financial companies during the period of 2010 to 2017. These firms belong to different business sectors except the financial sector because it has different regulatory

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bodies and compliance requirement. Financial sector also has one more issue as it does not fulfill the requirement of empirical analysis. We didn't include the data of the firms whose core information is missing or reluctant to provide the actual information. Malaysian stock exchange consists of more than 900 companies. We select 165 listed companies that belong to the different business sectors with the observation of 1320.

To measure the ERM, this study adopts the approach of (Fraser & Simkins 2016) and developed the index that provide the magnitude at which the ERM is exist in the firm. This index-based approach is different from other studies as they used the binary-indicator-based approach for the proxy of ERM.

Now the most important objective is to discover the systematic relationship of internal audit and audit committee with ERM. To achieve this objective, we must put both variables in the risk management equation. To handle this problem, we use the econometric model which is based on one-year data for each firm and the dependent variable would be risk management in the equation and similarly, the internal audit and audit committee would be independent variables. The estimation equations are as under:

Equation 1

ERM =

$$ERM = \alpha_0 + \beta_1 internal\ audit + \beta_2 audit\ committee + Y_1 contrl\ variable + Y_2 control\ variable + \varepsilon_i$$

Where ERM is the measure of enterprise risk management for the firm, Y_t is the control variables and ε_s are the error variables. In the above equations, we evaluate the relationship of risk management with internal audit function.

4.1 Control variables

Control variable is the one which remain constant throughout the research. It is neither a dependent variable nor an independent but play an effective role to obtain the results. This study based on three control variables. First, PERF which indicates the return on equity of the company with respect to the adoption of ERM. Second, LEV indicates the financial leverage of the firm, which shows the percentage of total assets financed by loans. Last, AQ which is the indicator of the audit quality. If a firm employ one of the big four audit firm than the value would be one otherwise zero.

5. Results

5.1 Descriptive Analysis

Table 1 shows the results of descriptive analysis of ERM and internal audit along with the mean values of control variables. The mean value of ERM is 2.219, indicating that majority firms have adopted the ERM. The mean value of internal audit is 1.931 whereas the mean value of audit committee is 0.861. The mean value of PERF is 0.271, which is closed to the mean value of Sadiq et al. (2019). The mean value of LEV is 0.082 which is closed to the mean value of Sadiq & Othman, (2017). AQ is an indicator variable for big-four auditors, which is indicated 1 if firm is audited by big-four and 0 otherwise. The mean value AQ is 0.48, suggesting that 48% of the firms are audited by big-four auditors. The mean value of AQ is closed to the mean value of Zandi et al. (2019).

Table 1 Descriptive Analysis

Variables	Mean	Minimum	Maximum

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ERM	2.219	0.102	27.104
Internal audit	1.931	0.013	4.211
Audit committee	0.861	0.021	3.951
PERF	0.271	0.034	1.257
LEV	0.282	0.054	0.641
AQ	0.48	0	1
Observation		1320	

5.2 Correlation Analysis

Table 2 provide the results of correlation analysis of this study. ERM have a positive correlation with internal audit and audit committee with the coefficient of 0.325* and 0.286 respectively, but the correlation with internal audit is significant. This implies that firms with better internal audit and audit committee are more engaged in adoption and implementation of enterprise risk management, suggesting internal audit and audit committee favorable in adopting ERM. PERF relate with asset and equity of the firms which also have a positive coefficient with the magnitude of 0.017. This correlation also implies that organizational performance is positively associated with the adoption of ERM. Further, the coefficient of LEV and AQ are positive with the coefficients being 0.217 and 0.263** respectively. The positive and significant coefficient of AQ indicates that the phenomenon of adopting ERM is more prominent in the firms, which are audited by one of the big 4 audit firms.

Table 2 Correlation Analysis

Variables	ERM	Internal audit	Audit committee	PERF	LEV	AQ
ERM	1					
Internal audit	0.325*	1				
Audit committee	0.286	0.414**	1			
PERF	0.017	0.063	0.050	1		
LEV	0.217	-0.053	0.052	-0.581	1	
AQ	0.263**	0.544	0.425	0.428	0.522	1

* & ** indicate significance at 1% and 5% levels, respectively.

5.3 Regression Analysis

Table 3 contains the results of the relationship between internal audit and ERM. In this study, ERM is employed as a dependent variable whereas internal audit and audit committee are employed as independent variables. The results show that the internal audit is positively and significantly associated with ERM, with the coefficients being 1.05. Consistent with the hypothesis 1, the findings suggest that firms with better internal audit are more favorable to adopting enterprise risk management. Moreover, our findings find that the audit committee is positively and significantly related to ERM, with the coefficients being 1.05. Congruent with the hypothesis 2, the findings suggest that firms are more inclined to adopt better risk management activities when they have better audit committee.

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PERF is positively and significantly related to ERM with the coefficients being 1.71 and 1.75, suggesting that firms with better organizational performance are more inclined to adopt risk management activities. Moreover, AQ is positively and significantly associated with ERM, indicating that firms audited by big-four auditors are more inclined to adopt and implement risk management activities. LEV is positively, but not significantly related to ERM. Overall, the findings of the current study suggest that ERM is the phenomenon that should be adopt in order to run the business in better pace particularly in economies where effective corporate governance is exist like Malaysia.

Table 3 Regression ERM

Variables	Binomial	Poisson
Intercept	(-5.29) ** (-2.11)	-1.89 -0.99
Internal Audit	1.05*** 1.69	0.73 1.44
Audit Committee	0.07** 2.14	0.06* 1.88
PERF	0.24*** 1.71	0.18*** 1.75
LEV	0.58 0.96	0.54 0.92
AQ	0.76* 2.67	0.74* 2.59

6. Conclusion

This study examines the relationship of ERM and internal audit. Our objective is to find either internal audit is a supportive element for the adoption of ERM. ERM is measured by the indexing approached which provide the magnitude at which the ERM is implemented in the firm. This index-based approach is different from other studies as they used the binary-indicator-based approach for the proxy of ERM. The regression results based on Binomial and Poisson models in which ERM act as dependent variable and internal audit and audit committee is independent variables.

Our sample data is consisting of 165 listed companies of Malaysia over the period of 2010 to 2017 with the observation of 1320. This data is collected from the reliable source and does not include the data of financial institution. Our results are consistent with our hypothesis and proved that internal audit and audit committee both are in the favor of adopting ERM. Moreover, internal audit plays an important role in the development and implementation of ERM.

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