# ASSESSING THE IMPLEMENTATION OF ENTERPRISE RISK MANAGEMENT BY MALAYSIAN FIRMS USING ERMDI

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**Abstract -** Enterprise risk management (ERM) was introduced as a response to the global financial crisis. Despite the claim that ERM is the solution for corporate governance deficiency, particularly in risk management practices, the number of empirical research studying this new field is still limited. This study aimed at assessing the extent of ERM practices, among Malaysian public-listed companies, by using a newly developed measurement. Eighty-one usable questionnaires were successfully collected and analysed. Findings from this study provide a different perspective of measuring ERM implementation and a better understanding on ERM implementation practice.

**Keywords -** Enterprise Risk Management, ERM Measurement Index

## I. INTRODUCTION

Corporate risk management is a vital activity to ensure business sustainability, which in the era of globalization, organizations have to encounter a myriad of risks that sometimes is beyond their control. Therefore, an effective risk management system is imperative for organization to be successful and sustained in today's challenging business world. Thus, manager needs to manage factors that stimulate risk so that they can pursue strategic advantage and opportunity arises from the risks (Miccolis & Shah 2000).The financial crisis has increased the pressure on the board of directors and top management in improving corporate governance practices such as enhancing effectiveness of internal control systems particularly emphasizing on the importance of risk management to achieve effective governance and control (Sutton 2006; Desender 2007). Among the well stated goal of the board's is to maximize the firm's value(Blanchard & Dionne 2003).Therefore, corporation needs to transform its risk management technique from silo-based approach to holistic approach. Enterprise risk management (ERM) was introduced as a response to an increasing pressure received by firms to manage risks comprehensively(Lundqvist 2014).ERM has been proposed as a new mechanism in predicting risks and helping companies achieve their goals(Arena et al. 2011).

Despite the claim that ERM is the solution for corporate governance deficiency particularly in risk management practices and its potential of value creation, the number of empirical research studying this new field is still limited. Empirical research describing the extent of ERM implementation, firm's characteristics that influence the implementation and its association with firm value is still lacking (Kleffner et al. 2003; Liebenberg & Hoyt 2003). Beasley et al. (2005)highlight that academics need to provide insights into firm's characteristics that influence some companies to response to the changing risk profiles by embracing ERM while others are not. Furthermore, the review of literature has identified that difficulty in measuring ERM implementation and lack of an efficient and robust measurement of ERM is the main deterrent to research in this area (Beasley et al. 2008; Gordon et al. 2009; Liebenberg & Hoyt 2003; McShane et al. 2011).

Thus, the main objective of this paper is to assess the extent of ERM practices, focused on practices by Malaysian public-listed companies (PLCs).Using data of 81 firms that implementing ERM, this study reveals that a majority of the companies surveyed have ERM in place at the moderate level. This study proposed and developed Enterprise Risk Management Index (ERMDi) as a comprehensive measurement of ERM implementation. ERMDi develops in this study could help practitioners to understand the benefits of managing risks holistically. Academics may use ERMDi as an ERM construct measurement in their empirical research.

## II. RESEARCH METHODOLOGY

This study focused on assessing the extent of ERM implementation. This was measured using Enterprise Risk Management Index (ERMDi) that was developed in this study. ERMDi identified an effective and comprehensive dimension of ERM and was developed due to limitation or issues highlighted in previous studies on ERM measurement. The following steps were undertaken in developing ERMDi.

### ERMDi Development Process

The instrument development process is an intensive, theoretical and empirical based employed to generate a reliable and valid set of instrument items for a given construct of interest. The objective of an instrument development process is to produce a set of instrument items that is conceptually sound, reliable, and valid when used to measure the intended construct.

ERMDi is proposed as an instrument that can measure ERM implementation comprehensively.

The instrument development process in this study followed a step-by-step guidelines recommended by Mackenzie et al. (2011) and Lewis et al. (2005). Lewis et al. (2005) argue that an instrument development is a critical process particularly in a new research area where the existence of validated instruments is limited. The instrument development process began with an extensive literature review, followed by content adequacy assessments to ensure that a valid and reliable instrument items are produced. The process started with a clear theoretical specification of the ERM construct which included defining the construct, and specifying its premise (purpose) and theoretical domain, as well as the dimensions.

The propose dimension was operationalized by incorporating the important elements and effectiveness of risk management practices as specified in literatures, specifically in COSO's ERM-Integrated Framework (2004) and ISO 31000:2009. ERMDi consists of eight principal dimensions that are measured initially through 44 items deemed important and relevant in assessing the extent of ERM implementation. The eight interrelated dimensions of ERM are namely, (i) internal environment, (ii) objective setting, (iii) event identification, (iv) risk assessment, (v) risk response, (vi) control activities, (vii) information and communication, and (viii) monitoring.

Four critical processes were undertaken to develop ERMDi that are; Stage 1: Conceptualization of the Construct; Stage 2: Development of Measures; Stage 3: Model Specification; and Stage 4: Pilot Test. The objective of conducting pilot test in this study is to assess the effectiveness of ERMDi as measurement of ERM implementation before the tool is used in the final data collection process.The effectiveness of ERMDi as measurement of ERM is tested using a survey questionnaire. Statistical results of the pilot test established that 41 indicators that measuring eight principal components of ERM shows a satisfactory result of reliability and validity thus the 41 indicators are used in the final data collection process. Table 1 presents the description of eight principal dimensions included in ERMDi and the initial 44 items measuring each of the dimension.

**Table 1: Description of ERMDi Dimensions and Number of Items**

| No | Dimension | Description | Item |
|---|---|---|---|
| **1.** | Internal Environment | How risk is viewed and addressed by the entity's people, including risk management philosophy, integrity, ethical values and the environment in which they operate. | 7 |
| **2.** | Objective Setting | ERM ensures that objectives are set at the strategy level and the chosen objectives support, align with the entity's mission and vision, and are consistent with firm's risk appetite. | 5 |
| **3.** | Event Identification | Internal and external events affecting achievement of an organization's objectives are identified and distinguished between risks and opportunities. | 5 |
| **4.** | Risk Assessment | Risks are assessed from two perspectives which have the likelihood for risks to occur and impact on the firm, should risk takes place, as a basis for determining how it should be managed. | 5 |
| **5.** | Risk Response | Having assessed relevant risks, firms determine how they will respond. Responses include risk avoidance, reduction, sharing and acceptance. | 5 |
| **6.** | Control Activities | Policies and procedures are established and implemented to ensure the risk responses are effectively carried out. | 5 |
| **7.** | Information and Communication | Significant information is identified, captured, and communicated in a form and time frame that enables people to carry out their responsibilities. | 6 |
| **8.** | Monitoring | ERM process is monitored by assessing the presence and functions of its components over time. | 6 |
| | | **Total** | **44** |

**Sample**

Unit of analysis of this study is firm i.e. publicly traded Malaysian firms. The sample used for testing the hypotheses consists of Malaysian PLCs with financial year ended by December 2012. This sample was chosen after the Malaysian Code on Corporate Governance (MCCG) was revised in 2012, which focused on risk management practices by firms.The Code is incorporated into the Bursa Listing Requirements and it is applied to all PLCs in Malaysia. As such, this study wants to assess the extent of ERM implementation by Malaysian PLCs after the revamped of MCCG in year 2012. The sample population is limited to publicly traded companies because they are typically large companies that have large operations and are more likely to

implement ERM programmes. Samples were selected from the population using simple random sampling method and the final sample comprises of 201 Malaysian PLCs companies from seven industries.

**Data Collection**

This study employed survey questionnaire to assess the extent of ERM implementation among Malaysian PLCs.Survey questionnaires are constructed according to ERMDi developed earlier where the dimensions have been transformed into questions that would assess the level of ERM implementation of each dimension based on a seven-point Likert scale ranging from one (strongly disagree) to seven (strongly agree). The questionnaire was administered through a web-based survey software package, and was sent to personnel responsible for risk management activities in the organization that are chief risk officer (CRO), accountant, management accountant, and internal audit officers. 105 responses were received of which 24 were removed from the sample due to incomplete response.

## III. RESULTS AND DISCUSSION

**Analysis on the Extent of ERM Implementation**

The depth of ERM practices among the sample firms, was analysed using frequency distribution of mean scores for the summated scales of eight dimensions of the ERM implementation intensity metric provided by the firms through questionnaires. The respondents are rated into three categories that are (i) high extent of ERM implementation, (ii) moderate extent of ERM implementation, and (iii) low extent of ERM implementation. Respondents are classified using semantic scale adapting from the scale used in Lai and Fazilah (2010). Respondents that have the mean scores ranging between 6 to 7 are categorized as high extent, the scale ranging 4 to 6 is categorized at moderate extent and the scale ranging from 1 to 3 is categorized a low extent of ERM implementation. Table 2 summarizes the result of frequencies analysis of the extent of ERM implementation among the companies.

**Table 2: Frequency analysis on the Extent of ERM implementation**

| | Extent of ERM | Scale | Frequency | % |
|---|---|---|---|---|
| **1.** | High Extent | 6.0 – 7.0 | 21 | 26 |
| **2.** | Moderate Extent | 4.0 – < 6.0 | 58 | 72 |
| **3.** | Low Extent | <4.0 | 2 | 2 |
| | | **Total** | 81 | 100 |

Furthermore, Table 3 demonstrates the statistical distribution of the scores of the extent of ERM implementation for the whole sample. The mean scores represent the average of the scores of the whole sample on every scale in the questionnaire. The results show that the mean score of the extent of ERM implementation for the whole sample is 5.64.

**Table 3: Descriptive statistics of the extent of ERM implementation**

| Variables | Min | Max | Mean | S.D |
|---|---|---|---|---|
| ERM Implementation | 2.77 | 6.72 | 5.64 | .63 |

The result reveals that of the firms being surveyed, a majority of them have ERM in place; however, the extent of implementation varies among the firms. They either have an extensive ERM in place or a moderate ERM in place. Looking into the detailed analysis of ERM implementation, 26% of the firms have high extent of ERM implementation in their operation, while a majority of them, i.e. 72 %, fall under moderate level and only two of the firms, are implementing ERM at a minimum level. The average mean score that gauged the overall intensity of ERM implementation yields results of 5.64 on the 7-point Likert's scale. This value falls within the semantic scale of 'moderate'.

This finding shows an improvement on ERM practices among Malaysian PLCs as compared to previous studies that examined ERM implementation in Malaysia (see, Izah & Ahmad Rizal 2011; Wan Norhayate et al. 2010). In general, the findings show that the sample firms have moved towards ERM, a holistic approach of managing corporate risks. Thus, the overall ERM penetration level among the Malaysian PLCs has been improved. The movement in ERM implementation among Malaysian PLCs is consistent with other countries with evidence showing that a large number of companies have now started to use ERM as a strategic management tool (Pagach & Warr 2010).

## CONCLUSION

This study has the main objective of assessing the extent of ERM practices, by using a special index (ERMDi) developed as a comprehensive measurement of ERM implementation. The result reveals that a majority of the companies surveyed have ERM in place at the moderate level. Findings of the current study reveals that majority of companies surveyed have moved towards ERM, a holistic approach of managing corporate risk. This study contributes to the body of knowledge in two important ways. It provides empirical evidence on the improvement of ERM practices by Malaysian PLCs, particularly after the revised MCCG 2012 that emphasises on enterprise risk management. Second, ERMDi is a tool that can be used both by practitioners in assessing the maturity level of ERM program in their organisations and by academics in their empirical research on ERM practice.

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