DETERMINANTS OF ENTERPRISE RISK MANAGEMENT (ERM) ADOPTION AMONG MALAYSIAN COMPANIES

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ABSTRACT

This study examines the factors associated with the level of adoption of Enterprise Risk Management (ERM) among Malaysian companies. The main aim of this particular study is to examine the relationship between the quality of Chief Risk Officer (CRO) and the quality of Board of Directors (BOD) with regard to the level of ERM adoption within the companies involved. The internal audit support factor is also examined and the quality of internal audit support is a moderating factor in the research framework. A survey questionnaire was sent to 500 public listed companies in the Malaysian Bourse. An interesting finding from this study is the positive correlation between the quality of CRO and BOD on the level of ERM adoption.

Keywords: Enterprise Risk Management, Chief Risk Officer, Board of Directors

INTRODUCTION

Following the Asian Financial Crisis in 1997, many companies and major corporations in the Asian region suffered from heavy financial losses which led to the closure of many business enterprises. Malaysia Airline System (MAS), the major airline of Malaysia for instance, also suffered financially from foreign exchange losses of between RM300 million and RM400 million for the first six (6) months of 1998. This setback was primarily due to its foreign debt of about RM3.16 billion (Financial Express, November 28, 1998). Most of its debt (90%) was in US dollars. Another major entity, TELEKOM Malaysia experienced similar setback and suffered from translation losses which amounted to RM158 million in 1997 (Agence France Presse, March 4, 1999). It is argued that poor management of risk led to the huge financial losses during that particular period.

Risk has become a critical issue that need to be given serious attention and managed effectively from time to time. In essence, risk can be defined as the likelihood that the outcome from a process will not meet expectations (Kneechel, 2002). Risk is present whenever the outcome is uncertain, whether favorable or unfavorable and it exists whenever there is uncertainty (D’Arcy, 2004). Business risks represent threats to the ability of an enterprise to execute business process effectively and to create
customer value in accordance with strategic objectives (Bell et al., 1997). Along the same basis, many corporate executives believe that a comprehensive program for managing business risks provides an essential foundation for sustaining competitive advantage (Economist Intelligence, 2001).

In response, many company executives strongly believe that risk management is of primary importance to business enterprises (Mikes, 2005). On the other hand, Smith et al. (1997) gave a common sense definition of risk management as any set of actions taken by individuals or corporations in an effort to alter risk arising from their primary line(s) of business. Traditionally, companies and organizations appear to have been managing risks implicitly or in “silo/stovepipe” approach which means that risks are often managed in isolation (Beasley et al., 2005). However, the top management in growing number of companies recognizes that such a “silo/stovepipe” approach is no longer an effective way to manage the myriad forms of risks they face (Walker & Shenkir, 2006).

The main objective of this study is to enhance the understanding of ERM practices among major companies in Malaysia. Based on this overarching goal, the objectives of this particular study can be described as follows:-

a) To determine the level of ERM adoption among the Malaysian companies;

b) To examine whether the Quality of Chief Risk Officer (QCRO) and the Quality of Board of Directors (QBODs) affect the level of ERM adoption within Malaysian companies; and

c) To investigate whether the Quality of Internal Audit Support (QIAS) moderates the relationship between the presence of Quality of Chief Risk Officer (QCRO) and the Quality of Board of Directors on the level of ERM adoption.

The study is structured as follows: First, a summary of literature on the concept of ERM, the Quality of Chief Risk Officer and also the Quality of Board of Directors. Second, the methodology and sample are both described. Third, the findings are thoroughly discussed and finally the conclusion is provided by summarizing the results and discussing avenues for future research.
LITERATURE REVIEW

In the recent years, the awareness of operational and strategic risks appear to have increased due to several high profile cases of companies and corporations (such as Barings Bank and Enron) that went bankrupt due to the obvious failure of internal control. Several other factors for instance, such as changes in respect of technological advancement and sophistication, the accelerating pace of business and economy, globalization, and the uncertainty of terrorists’ activities, seem to have contributed to the growing number of risks which are more sophisticated and complex to deal with. Such a scenario undoubtedly calls for the need of ERM as a practical approach for the effective management of risks (Beasley et al., 2006).

According to Mikes (2005), ERM is a systematic approach for managing risk. By effectively managing risk, companies and organizations alike, could possibly achieve their corporate objectives and eventually create value for their stakeholders. Furthermore, Shenkir & Walker (2006) proposed that an effective ERM implementation requires an organization context that includes strong commitment from the top management, risk management philosophy and risk appetite, integrity and ethical values, and also the scope and infrastructure for ERM.

In order to undertake the ERM program, a company needs someone who can initiate and monitor the risk related activities. It is therefore important to highlight that the COSO Report (2004) on ERM suggested the need of Chief Risk Officer (CRO) as someone who works closely with other managers in establishing effective risk management for the entire company or organization. In addition, the CRO is considered to be someone who has the overall responsibility for monitoring progress and also for assisting other managers in reporting relevant risk information up, down and across the entire business entity.

In this context, the need for quality CRO is highly essential and extremely important in ensuring the successful implementation of ERM program. Rosa (2007) postulated that qualities of a successful CRO include the following attributes such as well developed risk consciousness, knowledge of main business processes, current education in risk management curriculum, communication skills that include
working with individuals at all levels, facilitations skills and skills in finance, accounting and insurance.

Furthermore, the CRO’s duties include the following responsibilities:-

- overseeing the risk management activities and management of framework process
- assisting the top management by designing an appropriate risk management foundation
- monitoring enterprise wide risks and making sure that certain major risks are communicated upward to the knowledge and awareness of the top management concerned
- ensuring and validating effective management of risks by business unit leaders
- serving as ERM adviser for other upper level executives within the entire company
- assisting with corporate governance responsibilities
- assisting in the execution of the risk management processes
- facilitating an integrated approach to ERM
- managing specific risk types
- participating in the risk management committee

It is important for the company or organization to elect a leadership team that fits the current business setting. Usually, an organization’s leadership is referred to the Board of Directors (BOD). Then, in deciding on the composition of board members to be elected, stakeholders should consult the business’ ERM initiative, which highlights the most significant risks that require dynamic leadership (Rosa, 2006). For example, strategic issues, human resources and information technology will govern the board’s agenda and should influence the election of board members who can provide proactive guidance on these topics to the organization’s executive management team. Furthermore, COSO (2004) suggested that in the first component of ERM that is, the internal environment, it provides the required discipline and structure. Also, it is the basis for the other seven (7) components of the framework, which encompasses the responsibilities of the board of directors and the role sound organizational culture plays.
Issue that constitutes the effectiveness of BOD has become increasingly important in recent years. For example, Berghe and Levrau (2004) stated that the board size, board composition and board leadership structure are three (3) main criteria for good boards of directors. It is argued that the effectiveness of a board in monitoring management is determined by its composition, independence and size. The notion of composition and independence are closely related as board independence increases as the proportion of independent outside directors increases. Subsequently, Rosa (2006) argued that what makes a board effective are the board structure, composition, information management process, authority and responsibilities, performance and operations.

Boards size is one of the well studied board characteristics from two different perspectives. First, the number of directors may influence the board functioning and hence corporate performance. A study by Conyon and Peck (1998) showed an inverse relationship between the returns on shareholders’ equity and the board size for five (5) European countries.

Second, researchers have started to study the board of directors as decision making groups by integrating the various literatures on group dynamics and workgroup effectiveness. It is important to note that the board size can have both positive and negative effects on board performance. Larger boards are more difficult to coordinate and may experience problems with regard to communication and organization of related activities. Besides, large boards may face decreased levels of motivation and participation, and are prone to develop factions and coalitions. In this context, the quality of BOD might influence the level of ERM adoption.

In recent years, internal audit has been called upon to help implement COSO, lead to quality initiatives, advice on IT improvement and root out fraud. Today, internal audit has to look at ERM process as well (Hespenheide & Funston, 2006). As a result, internal auditing has moved from a control based approach to one that focuses on risk management, corporate governance and adding value (Walker et al., 2003).
METHODOLOGY

The use of survey questionnaires was very common for risk management studies (Beasley et al., 2006; 2007 and Liebenberg & Hoyt, 2003). As argued by Saunders et al. (1997), there are three (3) main advantages for employing the survey questionnaires. Firstly, they are highly economical for gathering a large number of data. Secondly, they can be standardized so that analysis becomes easier. Finally, they are easy for respondents to understand.

For the purpose of this particular study, only non-financial companies listed under the Malaysian Bourse were selected. These companies comprise seven (7) industry groups, namely, construction, consumer product, industrial product, plantation, properties, trading and services, and construction. The financial companies were excluded due to evidence of their involvement in ERM already (Beasley, 2003; Liebenberg et al. 2003; Pagach and Warr, 2007). The total population in this study was five hundred and eighty four companies. A total of 500 questionnaires were sent but only 89 (18%) companies responded.

The survey questionnaires consisted of (5) five sections. Section A focused on gathering information pertaining to the demographic profile of respondents and their firms or companies. Section B examined the companies’ Level of ERM adoption. Section C investigated the Quality of CRO in these companies. Section D examined the Quality of BOD while Section E looked at the Quality of Internal Audit Support.

RESULTS

The COSO (2004) ERM framework was used in order to examine the Level of ERM Adoption. Meanwhile, the Quality of CRO was measured by looking at their specific tasks in practices provided by COSO (2004) and the Quality of BOD was measured in accordance to their board size, board composition and board structure (Berghe & Levrau, 2004). The Quality of IAS as moderating variable was to examine their interaction between the Quality of CRO and the Quality of BOD towards the level of ERM adoption within the companies surveyed. This moderator was adopted from Beasley et al. (2005).

A Descriptive Analysis was performed to provide the general background of respondents and companies that have participated in this study. Empirically, the result of this particular study proved that
ERM was being practiced by Malaysian companies. However, the ERM practices are still at the early stage but appear to be developing fast. A total of 37 companies confirmed the complete adoption of ERM, 33 companies had partially adopted ERM, four (4) companies planned to adopt ERM, 12 were still investigating to adopt ERM and only three (3) companies announced that they do not have any intention to implement ERM. Table 1 below shows the summary of cross tabulation analysis with regard to the level of ERM adoption amongst companies under study.

Table 1. Level of ERM Adoption

<table>
<thead>
<tr>
<th>Years of company established</th>
<th>No plan exist</th>
<th>Investigating to adopt ERM</th>
<th>Planning to implement ERM</th>
<th>Partial ERM in place</th>
<th>Complete ERM in place</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-5 Years</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>6-10 Years</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>11-15 Years</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>8</td>
<td>7</td>
<td>19</td>
</tr>
<tr>
<td>16 Years and Above</td>
<td>1</td>
<td>8</td>
<td>3</td>
<td>23</td>
<td>30</td>
<td>65</td>
</tr>
<tr>
<td>Total</td>
<td>3</td>
<td>12</td>
<td>4</td>
<td>33</td>
<td>37</td>
<td>89</td>
</tr>
</tbody>
</table>

Given the small number of companies that responded to the industry survey, the level of ERM adoption was divided into two (2), namely, those companies that have adopted ERM completely and those that have partially adopted ERM. The companies that have adopted ERM partially planned to adopt ERM and those companies which are still in the process of investigating to adopt ERM were considered as ‘partially adopted ERM.’ Companies that have no plan to implement ERM were omitted for further analysis. Therefore, the results show that 37 companies or 43 percent which adopted ERM completely and 49 companies or 57 percent have partially implemented ERM. The level of ERM adoption status among the companies is shown in Table 2 below.
Table 2. Level of ERM Adoption Status

<table>
<thead>
<tr>
<th>Level of ERM Adoption</th>
<th>Frequency (N=86)</th>
<th>Percentage</th>
<th>ERM Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete ERM</td>
<td>37</td>
<td>0.43</td>
<td>Complete</td>
</tr>
<tr>
<td>Partial ERM</td>
<td>33</td>
<td>0.38</td>
<td>Partial</td>
</tr>
<tr>
<td>Planning to adopt ERM</td>
<td>4</td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td>Investigating to adopt ERM</td>
<td>12</td>
<td>0.14</td>
<td></td>
</tr>
</tbody>
</table>

It is important to note that the overall study provides an important initial attempt to identify the level of ERM adoption by Malaysian listed companies. Interestingly, on a positive note, the result shows that companies which had been established earlier are more likely to adopt ERM. The result also shows that most companies which adopted ERM were audited by the ‘Big Four’ audit firms. It could be argued that companies which engage in higher quality audits are more likely to improve its corporate governance by implementing ERM.

A Factor Analysis was conducted on 14 items according to the variables grouping proposed in the research framework. Firstly, the study employed factor analysis for quality Chief Risk Officer (CRO) as the independent variable. The result shows that the Kaiser – Meyer – Olkin (KMO) measure of sampling adequacy at 0.76, indicated that the items were interrelated and shared common factors. Bartlett’s test of sphericity was also found to be significant (Approx. Chi-Square = 240.302, p < .001) indicating the significance of the correlation matrix and thus, the suitability for factor analysis. The individual Measure of Sampling Adequacy (MSA) values ranged from 0.54 to 0.85, indicating that the data matrix was suitable to be factor analyzed. Results of the varimax rotated analysis indicated the existence of one significant component with eigenvalues 3.59 that explained 51.22 % of the total variances.

Table 3. Factor Analysis for Quality of Chief Risk Officer (CRO)

<table>
<thead>
<tr>
<th>Component 1</th>
<th>CRO ensures employees are educated about risk management</th>
<th>0.849</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CRO regularly meets senior executives to promote imbedding risk management into daily activities</td>
<td>0.764</td>
</tr>
<tr>
<td></td>
<td>CRO works with unit leaders to ensure the most significant risk compliance with the organization's standards.</td>
<td>0.756</td>
</tr>
<tr>
<td></td>
<td>CRO works with unit leaders to ensure risk identification included in business</td>
<td>0.721</td>
</tr>
</tbody>
</table>
Secondly, factor analysis was undertaken to assess the validity of the quality of Internal Audit Support (IAS) as moderating variable. The result shows that the KMO measure of sampling adequacy value for the items was 0.87, indicating that the items were strongly interrelated and they shared common factors. Bartlett’s test of sphericity was also found to be significant (Approx. Chi-Square = 530.142, p > .001) indicating the significance of the correlation matrix and thus the appropriateness for factor analysis.

The MSA values for the individual items ranged from 0.76 to 0.90, indicating that the data matrix was suitable for factor analysis. Results of the varimax rotated analysis indicated the existence of one significant component with eigenvalues 4.96 that explained 70.88% of the total variances.

### Table 4. Factor Analysis for Quality of Internal Audit Support (IAS)

<table>
<thead>
<tr>
<th>Component 1</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The internal audit assists the organization by deciding how to identify risks</td>
<td>0.903</td>
</tr>
<tr>
<td>The internal audit performs risk assessments in ERM</td>
<td>0.882</td>
</tr>
<tr>
<td>The internal audit department coordinate ERM efforts among other departments</td>
<td>0.878</td>
</tr>
<tr>
<td>The internal audit department provides ERM education in the organization</td>
<td>0.870</td>
</tr>
<tr>
<td>The internal audit monitors the stage of ERM development in the organization</td>
<td>0.802</td>
</tr>
<tr>
<td>The internal audit suggests control activities to the organization to ensure risk identification is in place</td>
<td>0.781</td>
</tr>
<tr>
<td>The internal audit department provides ERM leadership in the organization</td>
<td>0.767</td>
</tr>
<tr>
<td><strong>Eigenvalues</strong></td>
<td><strong>4.96</strong></td>
</tr>
<tr>
<td><strong>Total Variances Explained</strong></td>
<td><strong>70.878%</strong></td>
</tr>
<tr>
<td><strong>KMO</strong></td>
<td><strong>0.872</strong></td>
</tr>
</tbody>
</table>

The Reliability Test was conducted on the independent variables to check for the internal consistency of the measurement instrument. The Cronbach’s alphas for all variables scales were in the range of 0.74 to 0.93, which was well above the minimum accepted reliability of 0.60 as suggested by Sekaran (2000) (Table 5). At this stage, all variables were kept for further analysis. The Logistic Regression was performed to predict and explain the two (2) groups’ categorical variable of this study (complete ERM in...
place/partial ERM in place). Importantly, the overall result shows that all the variables (quality of CRO, quality of BOD and quality of IAS) were statistically significant in the adoption of ERM.

Table 5. Reliability Analysis for all variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Number of Items</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of CRO</td>
<td>7</td>
<td>0.833</td>
</tr>
<tr>
<td>Quality of BOD</td>
<td>17</td>
<td>0.741</td>
</tr>
<tr>
<td>Quality of Internal Audit</td>
<td>7</td>
<td>0.930</td>
</tr>
</tbody>
</table>

In general, this study shows that the adoption of ERM is associated with the quality of CRO and also the quality of BOD. Also, the result specifically shows that companies with quality CRO are likely to adopt ERM. It could be due to the fact that the CRO concerned is proficient to assist in the risk identification process for the companies, performs risk assessment, assists in risk response, suggests control activities to ensure risk response is in place and acts as expert in monitoring all risk mitigation activities. In addition, by having quality BOD, companies are likely to adopt ERM because most of the directors seek to protect their reputations as expert monitors.

Consequently, the adoption of ERM demonstrates their commitment and awareness of improved risk management in companies as ERM is the latest technique in protecting companies from potential risk exposures. Furthermore, directors with multiple directorships tend to be more supportive in respect of monitoring the company’s business operations to avoid company’s poor performance that may lead to eventual corporate failures.

As an overall result, there is a significant positive association between quality of Internal Audit Support which proficiently influence quality of CRO and quality of BOD towards the level of adoption of ERM in companies listed in the Malaysia Bourse. Therefore, it should be stressed that the contribution of the quality of Internal Audit Support cannot be denied for the development of the ERM practices in Malaysia.
CONCLUSION

It must be mentioned that this particular study, like any other study, also has its own limitations. Firstly, the response rate was quite low that is, only 89 out of 500 sample chosen. Perhaps, if the response rate is at least 100, then it will be more appropriate to make generalizations and inferences. Secondly, this study was conducted based on non-public listed companies from the main board of Malaysia Bourse only. Any finding, discussion or suggestion in this study might be irrelevant to any other party except for the companies as mentioned above. Finally, this study did not make any attempt to measure companies’ performance after adopting ERM.

Based on the limitations of the study, future researches on similar topic are recommended for enhancement in certain area of interest. First of all, there is a need to investigate the companies’ performance after applying the ERM framework. A study of more than one (1) year would be necessary to examine a trend or pattern of performance for companies that applied the ERM framework. Therefore, it is strongly suggested that the research approach could possibly utilize a qualitative research approach such as in-depth interviews, case studies or in combination with survey questionnaires. In addition, additional variables could be included to create a new framework for the study.

To conclude, the study shows that both the quality of CRO and BOD influence companies level of ERM adoption and the quality of Internal Audit Support moderates the relationship between the presence of both the quality of CRO and BOD. Finally, it must be emphasized that key findings of this study reveals that some of the companies in Malaysia had already adopted the ERM framework to their advantage. On a positive note, it is highly optimistic that many more companies and organizations may tend to follow suit by eventually adopting ERM for effective management of risks in an increasingly complex business environment where the future is unknown but undoubtedly, full of risks and uncertainties that may catch business entities by surprise.
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