

Study the Enterprise Risk Management in Public Listed Companies: a Case Study of Indian Companies

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ABSTRACT

This is a survey study to investigate 124 Indian public listed companies and logic regression used to assess main factors . It was found there are some independent variables which must considered by the organization leaders so that they can manage the risk factors and finally achieve the entity objectives . enterprise risk management is critical factor in decision making and better perception of organization and employees . Systematic planning can help to achieve this objective and knowing risk factors in enterprises is main responsibility of managers.

Introduction

ERM is therefore a systematically integrated and discipline approaches in managing risks within organizations to ensure firms achieve their objectives that are to maximize and create value to their stakeholders. ERM is used because of the benefits it brings to the organization. One of the benefits is to protect firms' organizational assets by its physical, customer, financial and employee/suppliers assets (Protiviti, 2006).

The Committee of Sponsoring Organization of the Treadway Commission (COSO) report (2004) defines "Enterprise Risk Management (ERM) as a process effected by an entity's board of directors, management and other personnel, applied in strategy-setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives"

This systematically process exists in planning, organizing, leading and controlling organizations activities in order to minimize firms' major risks such as financial, strategic and operational risks (Cassidy, 2005). Kleffner *et. al.*, (2003) strongly argued that benefits of ERM should be looked on three factors. It is a coordinated and consistent approach to avoid major losses in handling overall risks, also better in integrating risk communication among departments. In addition, via ERM, companies may benefit the "company-wide philosophy", resulting in better understanding for everyone to achieve company's objective. Furthermore, by applying ERM, companies especially at the board of directors level, may increase their risk awareness and extend more knowledge to get better results in decision making and for company's going concern process and finally to increase its value. A study by Yusuwan *et. al.*, (2008) on Indian construction industry concluded that risk management still has a long way to go and that they are slowly accepting risk management as a management tool in assisting their business. Research in ERM especially in the Indian context is still considered scarce (Yazid, 2001). Therefore, this study is hoped in a way,

fill the gap that exists. Our research provides a starting point for additional research into ERM in the public listed companies. Previous research on ERM takes the form of surveys. This study is valuable as a source of information on the characteristics of companies adopting ERM. The objective of the study is to examine the determinants of ERM adoption in Indian Public Listed Companies. The results from this study would assist companies in identifying factors that determine the adoption of Enterprise Risk Management and to have an overview of the importance of ERM adoption.

Literature Review

According to Lee (2000), companies need the right tools and conceptual framework to implement ERM. What the right tools mean is the appointment of Chief Risk Officer (CRO) itself. In another study by Beasley *et. al.*, (2005) found that: (a) an appointment of CRO; (b) managerial support; (c) types of board directors; (d) size of firm; and (e) the existence of Big Four auditor have significance impact of firm to implement ERM. Meanwhile, Pagach and Warr (2007) found four main characteristics of firm that implement ERM. Their study show that firms using ERM has several characteristics as follows, (a) firm has more leveraged; (b) firm has incurred more volatile earnings; (c) firm has suffered poor stock markets performance; and (d) managerial influence characteristics inside of the firm. In addition, they found that there is a correlation between size and leverage, which influence firm to hire chief risk officer (CRO). Furthermore, empirical findings by Manab *et. al.*, (2007) revealed that 47.80% of non-financial companies on ERM programs are led by internal audit department. The findings by Desender (2007) had shown a different perspective – the board of directors with separation of CEO and chairman, plays a major role in determining characteristics of ERM programs. Even though this study is only focus on a single sample namely pharmaceutical industries, this results shows how importantly the composition of board of directors in determining

characteristics of firm that involved in ERM activities. KPMG (2006) identified four major factors for US companies have exercised ERM: (a) the organization desire to reduce potential financial losses (68%); (b) the organization desire to improve business performance (64%); (c) due to the regulatory compliance requirements (58%); and (d) the organization desire to increase risk accountability (53%). Price Waterhouse Coopers (2008) found five key factors that motivated firms to implement ERM in Finland as follows; (a) over 96 percent users want to adopt good business practice; (b) more than 81 percent due to corporate governance pressure; (c) 42 percent stated that it gives them a competitive advantage; and (d) more than 30 percent comes from regulatory pressure and also investment community pressure. Using hazard model, Pagach and Warr (2007) examined the characteristics of firms adopting ERM and find that firms that are more levered, have more volatile earnings and have exhibited poorer stock market performance are more likely to initiate an ERM program. A study by Yusuwan *et. al.*, (2008) on the awareness among construction professional towards risk management, found that organizations such as constructions industry have implemented risk management in their operations although this is only on a small scale. Previous research on ERM found some features of firms that implement the program. For example, Kleffner *et. al.*, (2003) found size as measured by annual turnover is a key factor for larger companies to exercise ERM. Liebenberg and Hoyt (2003) found firms tend to practice ERM by appointing Chief Risk Officer (CRO). In addition, their study showed those firms which have financial leverage are most likely to hire CRO. Lam (2000) believed that chief risk officer (CRO) plays a major role in determining ERM programs. He urged that every industry lines should consider the function and the role of chief risk officer. This argument has been supported by Liebenberg and Hoyt (2003) and Pagach and Warr (2007) in determining the existence of CRO in major firms. Research done by Hussin *et. al* (2008) on a survey of 24 Indian Public Listed Companies found six factors.

Methodology

It is a comprehensive database of listed companies, bank and insurance companies around the world. It contains summary information, detailed financial information, ratings, scanned/digitalized report, market research and recent news of the companies. Table 1 presents the breakdown of the sample used in this analysis, sorted by industry. It can be seen that Industrial Products provides us with the largest number of observations, followed by Trading/Services. Properties and Consumer Products are third and fourth largest sample. Companies in the mining industry are very small indeed. In terms of percentage, we find that Industrial Product represents about 26.48 percent, followed by Trading/Services (24.22 percent), Properties (14.98 percent), Consumer Products (14.63 percent), Constructions (7.49 percent), Plantations (6.62 percent), Technology (3.14 percent), Infrastructure Project (1.39 percent), Hotels (0.87 percent), and Mining Industry (0.17 percent). In terms of companies adopting ERM from the sample in 2007, 157 or 29.7 percent had adopted ERM while 371 companies or 70.3 percent had not adopted ERM. From these results, it clearly shows that many companies are still not practising ERM even though from our analysis on the previous research, ERM programs are very important and beneficial. In terms of whether companies adopting ERM and hire Chief Risk Officer (CRO) or not, from the table, 12 companies or 7.10 percent hire CRO while 157 or 92.9 percent of ERM users do not hire CRO. Further, out of 528 companies, 248 or 46.97 percent are diversified internationally and 280 or 53 percent otherwise.

Table 1: Sample Companies

No ID	ID	ERM without CRO	ERM with CRO	ERM non-user	ERM user	Sample	Types of Companies
33	17	33	1	55	31	79	Consumer Products
60	79	15	3	93	17	139	Industrial Products
30	30	13	0	38	13	10	Constructions
68	56	37	3	81	10	131	Trading/Services
6	1	3	1	1	3	7	Infrastructure Project
1	0	1	0	3	1	1	Hotels
59	30	18	3	58	31	79	Properties
38	10	6	0	33	6	38	Plantations
0	1	0	0	1	0	1	Mining
3	11	3	0	11	3	17	Technology
380	318	157	13	371	157	538	Total
53.0	16.9	93.3	7.1	70.3	39.7	100	Total (in %)

Table 2: Variables Used in the Logic Regression

Dependent Variable		
Dummy variable 1 = company adopting ERM and 0 otherwise		ERM
Independent variables		
Loans, investment and other earning assets	Total Assets (in ln)	SIZE
Total liabilities divided by the market value of equity	Leverage	LEV
Net income divided by total assets	Profitability	ROA
Dummy variable 1 = company involved in international diversification and 0 otherwise	International Diversification	INTDIV
Percentage of 30 largest shareholders	Ownership	OWN
Dummy variable 1 = Chief Risk Officer is hired and 0 otherwise	Chief Risk Officer	CRO
Sales generated	Turnover	TURN0

Table 3: Descriptive Statistics of the Variables

Maximum	Minimum	Std. Dev	Median	Mean	Variable
1	0	0.457	0	0.297	ERM
44,221,300	52,025	4,134,078	481,676	15,692,204	SIZE
1.027	0.005	0.213	0.434	0.435	LEV
44.950	(39.610)	8.138	6.560	7.001	ROA
1	0	0.498	0	0.451	INTDIV
99.99	7.460	20.187	68.38	64.602	OWN
1	0	0.136	0.0	0.019	CRO
29,604,700	544	2,259,173	281,830	870,627	TURN0

To capture the effects of ERM, we use the following logic regression:

$$ERM_j = \beta_0 + \beta_1 SIZE_i + \beta_2 LEV_i + \beta_3 ROA_i + \beta_4 INTDIV_i + \beta_5 OWN_i + \beta_6 CRO_i + \beta_7 TURN0_i + \epsilon_i$$

The dependent variable is a dummy variable equal to 1 for firms that adopt ERM and 0 otherwise.

Findings

Table 4 reports the results of the logic regression. It shows that variable SIZE is not significant in explaining ERM practices. This means that there is no relationship between SIZE (lnAsset) and ERM practices. This suggests that, size does not matter in choosing to adopt ERM practices. This is not surprising given the fact that Indian companies are still not aware of the importance of ERM though these companies are facing risks. Our study contradicts to that of Lienbenberg and Hoyt (2008) who found that size was related to the decision to implement ERM. The coefficients for TURNO are significant at the 5 percent level. This means that there is a relationship between turnover and ERM practices. It suggests that when a company is doing more aggressive sales, they earn more profit. Therefore, when their annual turnover is greater than cost, the company may support ERM programs. The coefficient for LEV is not significant in explaining ERM practices. It indicates that there is no relationship between Leverage and ERM, suggesting that companies with higher financial leverage are not likely to adopt ERM. Pagach and Warr (2007) found that firms that are more leveraged are more likely to initiate ERM programs.

Table 4: Results of the Logic Regression Approach

Dependent Variable is ERM				
Logic Coefficients				
VIF Range	p-value	S.E	Estimate	Independent Variables
0.004***	1.161	-3.380		Intercept
2.539	0.502	0.135	-0.091	SIZE
2.868	0.040***	0.134	0.275	TURNO
1.454	0.952	0.566	0.034	LEV
1.355	0.359	0.014	-0.013	ROA
1.223	0.231	0.005	0.007	OWN
1.082	0.014***	1.531	3.756	CRO-1
1.070	0.096*	0.202	-0.336	INTDIV-0
R2 0.185				

The coefficient for ROA is also not significant in determining ERM practices. It shows there is no relationship between ROA and ERM

practices. It suggests to us that, it is possible for company to produce stable net income every year. When a company does not perform in terms of yearly sales, it also reflects their profits too. Therefore, the management may tend not to practice ERM because of this. The result for the variable of OWN is also not significant. It suggested that there is no relationship between Ownership and ERM practices meaning that regardless of the share of the companies, ERM seems not to be important. The coefficient for CRO is significant at the 5 percent level. This means there is a relationship between CRO and ERM practices. It suggests to us that the role for managing risks must be accelerated by Chief Risk Officer, which strongly supported by risk department and risk management committee. Therefore, companies that hire CRO tend to adopt ERM. This supports the research by Lam (2000) and Beasley *et. al.*, (2005). Finally, the coefficient for dummy 0 for International Diversification shows significance result. This implies that companies that are not diversified internationally do not adopt ERM. It means that companies operating within the locality of India seem to adopt ERM practices. Hoyt and Liebenberg (2008) found that ERM users are large, more internationally and industrially diversified and less capital constrained than non-users.

Conclusions

Logistic regression approach is adopted since the dependent variable that is ERM, is a dummy variable of which 1 represents companies adopting ERM and 0 otherwise. The results of this study show some interesting findings. ERM adoption is positively associated with high turnover and having a Chief Risk Officer. Companies that are large, internationally diversified, with high leverage, profitable and with ownership of 30 percent shares, appear not to adopt ERM. This is not surprising given the fact that the levels of awareness and understandings are still considered low among Indian public companies. It seems that companies that adopt ERM rely very much on the existence of Chief Risk Officer. This is

consistent with the findings by Lam (2000); Liebenberg and Hoyt (2003); and Pagach and Warr (2007). As far as we are aware, this study is the first attempt made to examine the factors that determine the adoption of ERM among public listed firms in India. It is hoped that the study is beneficial to other researchers as well as practitioners. Evidence from this study clearly shows that by adopting ERM, companies will be able to manage their risks systematically. This study is without its limitations. Further research is needed to reconfirm our findings for example to include other relevant factors such as organizational structure of the companies and to include more years in the study.

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