## ENTERPRISE RISK MANAGEMENT: ADOPTION, PERFORMANCE BENEFITS, AND DISCLOSURE EFFECT

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## **EXECUTIVE SUMMARY**

Inadequate and ineffective corporate/firm risk assessment has been identified as one of many contributing factors to the recent financial crisis and the resulting meltdown of the U.S. economy and financial markets. In addition to inadequate risk assessment, implementation of ineffective strategies and controls to mitigate identified risks can also be considered factors contributing to the financial scandals of the new millennium (Enron, WorldCom, etc.), losses sustained from natural disasters and terrorism, as well as poor management judgments. These aforementioned issues have created major obstacles for the U.S. economy and tremendous losses throughout the financial investment community. As a result, executives and investors alike have become more interested in how organizations are managing risk.

The Enterprise Risk Management – Integrated Framework published by the Committee of Sponsoring Organizations (COSO) of the Treadway Commission (COSO-ERM 2004) provides an overview how organizations may consider the organization-wide risk management process. The COSO-ERM framework defines Enterprise Risk Management 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.

In addition, the framework also indicates that in order for management to maximize firm value, it must develop the organization's "strategy and objectives to strike an optimal balance between growth and return goals and related risks, and efficiently and effectively deploy resources in pursuit of the entity's objectives."

The Institute of Internal Auditors (IIA), one of the original joint sponsors of the COSO, considers risk management as a key component within the profession of internal auditing. The IIA's International Professional Practices Framework (IPPF) defines internal auditing as:

...an independent, objective assurance and consulting activity designed to add value and improve an organization's operations. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes.

This definition explicitly indicates that the Internal Audit Function (IAF) has a professional responsibility to not only the corporate governance process, but also the risk management and



control processes within the organization.<sup>1</sup>While not managing specific risks, this implies that the internal audit function has some responsibility for contributing to the risk management process. Associated with this is the issue of consideration of public disclosure of risk factors.

Increased levels of disclosure provide creditors (including credit rating agencies) and investors with additional information to evaluate investment decisions while also decreasing the level of asymmetric information thereby reducing the risk of investment. Arthur Levitt (1998), former chairman of the Securities and Exchange Commission (SEC) emphasized that disclosure was a component of high quality accounting standards which increase investor confidence resulting in lower cost of capital for firms. Consistent with Levitt, prior disclosure related literature (Botosan 1997; Sengupta 1998; Botosan and Plumlee 2002; and Ashbaugh-Skaife et al.2009) has noted benefits in the form of reduced cost of debt and equity for companies with enhanced disclosure reporting.

Based on these aspects of risk management, this three part dissertation study evaluates several aspects of ERM adoption and assessed level of maturity of ERM process. Using a survey of Internal Audit Function management, combined with financial and non-financial disclosures, this study considers the potential association between corporate governance factors and the likelihood of adopting ERM process, the assessed maturity of ERM processes and operational as well as market performance, and finally, the extent of risk disclosure and measures of cost of debt and equity.

The first study focuses on the audit committee and internal audit function. The Audit Committee of the Board of Directors has frequently been tasked with oversight of organizational risk, while Internal Audit Functions by definition have a responsibility to help improve the risk management process. In addition, to add the greatest value, the internal audit function is responsible for completing periodic risk assessments of the audit universe. Based on the risk oversight roles assigned to the audit committee and internal audit functions, these groups may have some influence as on the implementation and maturity of ERM processes within their organizations. The study uses an on-line survey to determine whether ERM processes have been adopted and the assessed level of maturity of ERM processes, and uses this information to evaluate whether certain characteristics of Audit Committees and Internal Audit Functions are associated with adoption and maturity of ERM processes. After controlling for firm size, industry, and financial leverage, results of the study provide evidence of a positive association between firms the percentage of audit committee members disclosed as financial experts, then number of audit committee members disclosed as financial experts, then number of audit committee members disclosed as financial experts, then substances and set of the study area and the adopted and financial experts, then number of audit committee members disclosed as financial experts, then number of audit committee members disclosed as financial experts, then number of audit committee members disclosed as financial experts, then number of audit committee members disclosed as financial experts, then number of audit committee members disclosed as financial experts, then number of audit committee members disclosed as financial experts, then number of audit committee members disclosed as financial experts, then number of audit committee members disclosed as financial experts, then number of audit committee members disclosed as fin

<sup>&</sup>lt;sup>1</sup> While the definition of internal audit states that that internal audit functions have a responsibility to "evaluate and improve the effectiveness of risk management", the IIA's definition of internal auditing and the International Professional Practices Framework standards explicitly indicate that internal audit functions must be independent. As a result, some components of ERM, including management of risk and setting of risk tolerances, would impair the internal audit function independence if performed. Although risk management would present a conflict of independence for the internal audit function, one of the primary responsibilities of internal audit functions includes performing risk assessment for both the macro-level annual audit plan and on the micro-level for each audit, thereby not presenting a conflict to independence. This study does not specifically consider the extent of internal audit functions ERM responsibilities, but only the association between internal audit function characteristics and ERM adoption and maturity of ERM processes.



indicate that firms with greater Internal Audit reporting independence as having a greater likelihood of ERM adoption.

The COSO ERM model indicates that by managing both downside and upside risk, organizations are better positioned to achieve organizational objectives which frequently include enhanced operational and market performance. Matching the assessed level of ERM process maturity to financial results, the second study tests whether higher assessed levels of ERM process maturity is associated with higher return on assets and return on equity or market value of equity. While controlling for other factors, the results of the study provide limited evidence of an association between the assessed maturity of adopted ERM processes and the industry adjusted average return on assets. Additionally the results also find a negative association between the market value of equity and the assessed level of ERM maturity while controlling for other variables.

Finally, prior disclosure related literature has provided evidence that firms exhibiting increased disclosure were associated with reduced cost of debt and equity. Using the sample of companies responding to the survey, this study evaluates the consistency of this finding for the disclosure of organizational risk factors. The study measures risk factor disclosure as the count of the risk factor disclosures noted in 10-K filings. Results of the study indicate a negative association between the number of disclosed risk factors and decreases in the cost of debt (based on debt rating changes). Additionally, the results indicate a higher cost of equity for firms with the lowest level of ERM related risk disclosures.

Overall, the results of this study provide new information related to the risk management related processes and potential benefits of ERM adoption and disclosure of risk factors. Despite these contributions, the results are limited by the number of survey respondents (maximum number of firm observations of 244) providing survey responses and disclosing other necessary data. As a result of the recent global economic events, organizations are likely to reevaluate their risk assessment and management processes to attempt to address future additional events which may occur.

