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Does Enterprise risk management enhance operating performance?☆

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ABSTRACT

The Committee of Sponsoring Organizations (COSO) Enterprise Risk Management (ERM) framework (COSO-ERM) indicates that the development of an enterprise-wide risk assessment and management process is designed to "provide reasonable assurance regarding the achievement of entity objectives." We examine this issue and hypothesize that firms with mature ERM processes should achieve greater operational performance than those with less mature risk management processes. This study relies on internal audit function management survey responses matched with archival firm level data to gain a better understanding of the expected operating performance impact of the multi-stage ERM implementation process. After controlling for board governance and other known effects, we find that firms with higher levels of ERM process maturity are characterized by higher operating performance than their industry peers utilizing performance metrics closely related to the earnings process. Our study provides support for the linkage of enhanced operating performance associated with the maturity of ERM processes and suggests other potential areas of ERM research.

1. Introduction

Financial and insurance industries have long understood the value of quantitative analysis of operational information in estimating loan and claim risk in business practices (e.g. granting loans, setting interest rates and premiums). Firms within the financial and insurance industries have historically invested in processes and technologies to identify and estimate risk exposure. These processes use data analysis to assist with monitoring risk exposures and maximize risk-based business decisions. Despite these investments, the banking industry, expected to be a leader in risk assessment and management practices, has had several firms experience major failures managing organizational risk. More specifically, the reputation for bank risk-taking strategies has been criticized as a leading contributor to the recent Great Recession (December 2007 – June 2009[1]). There also have been other notable examples of operational practices having significant impacts on banks in recent years. For example, Barings Bank (1995) and J.P. Morgan Chase (2012) each allowed a single employee excessive authority to make extremely risky equity trades. Although J.P. Morgan Chase was able to absorb a $5.8 Billion loss[2] (original estimates of losses were as high as $9 Billion[3]), Barings Bank was not able to survive the risky trades made by Nick Leeson and was sold for £1. While not having a global economic impact, several other major firms have experienced significant losses as a result of gaps and failures within their risk management strategy and the security of customer information.[4]

In order to address the lack of a systematic enterprise-wide risk management plan, in 2004, the Committee of Sponsoring Organizations (COSO) of the Treadway Commission created an Enterprise Risk Management framework (COSO-ERM). COSO-ERM defines Enterprise Risk

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[1] http://www.nber.org/cycles/sept2010.html

[2] http://www.bloomberg.com/news/2012-09-06/jpmorgan-said-to-face-escalating-senate-probe-into-cio-s-losses.html

[3] http://www.bloomberg.com/news/2012-06-28/jpmorgan-slips-on-report-of-trading-loss-widening-to-9-billion.html

[4] T.J. Maxx, Sony PlayStation and many other firms have realized the significance of loss that may be associated with technological risk that hackers pose to customer data. The grounding of a significant portion of the Southwest Airlines fleet demonstrates the risk of compliance risk. The business impacts of environmental risk have been noted with Hurricane Katrina, Deepwater Horizon, and Hurricane Sandy to name just a few. Competitive risk and technological changes have also lead to recent struggles for household named firms (e.g. Kodak, Kmart, and Blockbuster). Regulatory and political risks also create burdens for businesses.

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Management (ERM) as an enterprise-wide risk assessment and management process designed to "provide reasonable assurance regarding the achievement of entity objectives." Although adoption of risk management may not specifically change the level of organizational risk, it likely impacts the actual measurement and monitoring of risk throughout the firm. As a result of targeting specific levels of risk, firms are likely to reduce downside operating performance volatility while accomplishing their ordinary business goals and objectives which include generating profits and providing shareholder value. Moreover, COSO's definition of ERM implies that firms implementing ERM processes should be more likely to achieve enhanced operating and market performance, yet this empirical link remains unclear. Recently, Monda and Giorgino (2013) note that empirical studies have provided little evidence on the effect of ERM on firm value. In addition to the noted empirical limitations, they state that "despite the theoretical motivations, if and to what extent ERM adds value is yet to be proven." While McShane, Nair, and Rustambekov (2011), Baxter, Bedard, Hoitash, and Yezegel (2013) rely on the financial services industry to examine ERM benefits, Monda and Giorgino (2013, p. 3) further indicate the limitation of such studies to financial institutions which differ substantially from industrial firms in institutional type and operations.

In general, there are three major types of financial institutions; depository institutions that accept and manage deposits and make loans (e.g. banks, credit unions, and mortgage loan firms) secondly, contractual institutions (e.g. insurance companies and pension funds) and lastly, investment institutions (e.g. investment banks, underwriters, brokerage firms). Prior economic and finance literature suggests that financial firms differ from non-financial firms in financial leverage, investment opportunities, and external governmental regulation, all of which have implications for profitability, risk assessment and price setting behavior (Armstrong, Guay, Mehran, & Weber, 2016). The financial system that delivers these functions is comprised of an ever evolving configuration of financial institutions, securities markets, securities laws and enforcement budgets, information intermediaries, financial regulation, and relations between political and financial institutions (Bushman, 2014).

In addition to the general differences of financial firms and institutions indicated that suggests a broader industry perspective for assessing ERM process benefits taken in this study, we also focus on operating metrics closely aligned with the earnings process. There are several key differences that can create estimation issues and differences in valuation and profitability or operating metrics in research studies utilizing financial firms versus non-financial firms (such as in this study) as succinctly outlined by the financial expert Damodaran (2011). The first is that financial service firms operate under heavy regulation with various capital constraints that impact operating strategy. Another difference is related to divergent accounting rules between financial service and non-financial firms related to asset valuation and earnings reporting. A third difference is the concept of debt within the financial services industry compared to the non-financial services industry. Within the financial services industry, debt would be more similar to an input operating source (e.g. raw material) than to a source of financing with the industries have significant differences in leverage ratios. In sum, all of these factors suggest that ERM results for financial firms may not be comparable to non-financial firms. We suggest that the broader sample examined in this study has the potential to yield further insights in the relation between ERM adoption and operating performance.

While general literature on ERM exists, one important limitation is that several previous studies have relied on the use of Chief Risk Officer (CRO) appointments as a proxy for ERM adoption (Beasley, Pagach, & Warr, 2008; Pagach & Warr, 2010 and Pagach & Warr, 2011; Hoyt & Liebenberg, 2011). Although the announcement of CRO appointment may indicate ERM adoption, lack of CRO announcement appointment does not necessarily indicate that ERM has not been implemented. Furthermore, appointment of a CRO does not guarantee that an "enterprise-wide" risk management process will be implemented. The CRO position may be focused narrowly on hazard or hedging risk as opposed to the overall risk exposure of the firm. A notable exception to the use of CRO in identifying ERM adopters is Gordon, Loeb, and Tseng (2009).

Gordon et al. (2009) focuses on a more robust measure of ERM effectiveness by searching 10-K and 10-Q covering fiscal year 2005 to identify terms related to ERM adoption (e.g. enterprise risk management, strategic risk management, corporate risk management, risk management committee, risk committee, and chief risk officer) which reduced the major criticism of only identifying firms with CROs. Further, Gordon et al. (2009) research documents a broader portrait of the ERM performance link by including an analyses of several mediating variables based on firm and capital market characteristics. Specifically, Gordon et al. (2009) demonstrate that using excess market returns as an ERM performance metric and focusing on ERM implementation in 2005, a subset of their 112 firm sample (high performing firms) is associated with contextual factors such as industry competition, firm complexity, firm size and board monitoring and have a significant effect on the effectiveness of ERM. However, their sample includes over 50% of observations from three highly regulated industries (Utility (34.8%), Financial Trading (11.6%), and Insurance (8.0%). While Gordon et al. (2009) provides a significant contribution to the ERM literature, Monda and Giorgino (2013) note that many of the prior ERM studies suffer from measurement error as a result of using a binary variable as a proxy for ERM adoption.

We build on this prior research and distinguish our study from the previously noted ERM literature limitations in the following four ways. First, in contrast to the previous studies, our three year analyses period subsequent to COSO-ERM 2004 allows us to examine additional ERM implementation and maturity performance effects as we capture the internal assessed maturity level of the ERM processes.[5] Specifically, we add incrementally to the current ERM literature through the use of a more direct and informative measure of ERM adoption, including the maturity stage of implementation captured by conducting a survey. Secondly, addressing a recent criticism of the importance of assessing firm performance effects,[6] we evaluate the effectiveness of ERM adoption as well as its multi-stage processes with accounting/operating performance metrics (return on assets (ROA) and return on equity (ROE)) closely related to the earnings process. These two traditional measures of operational performance; (ROA and ROE) have been hypothesized as a potential benefit of ERM adoption and the ERM maturation processes. Thirdly, while at least two previous empirical studies have examined ERM maturity, both studies have limited their investigation to financial institutions and insurers (e.g. McShane et al. (2011), Baxter et al. (2013)). In contrast, we conduct our analyses with a broad industry sample rather than a sample comprised primarily of firms in the financial services or regulated industries, given significant differences in operating and profit setting behavior as previously discussed. We suggest that expanded industry scope in this study has the potential to provide additional insights on the linkage between ERM adoption, its maturity and operating performance. Finally, also in a departure from previous research, using ERM adoption proxies such as the identification of a Chief Risk Officer or associated risk management terms, this study relies upon direct responses from 174 public firms gathered in 2009 from surveys of Internal Audit Function (IAF) management to capture the ERM process maturity for the three fiscal year period between 2006 and 2008 to specifically identify the maturity of ERM processes of responding firms. We evaluate the performance effect of ERM maturity processes by matching the IAF survey response data with archival

[5] Beasley, Clune, and Hermanson (2005) also collect information on ERM STAGE (maturity of activities) to gain an understanding of the types of organizations implementing ERM. However the study does not evaluate performance of those that implemented ERM.

[6] Koufteros, Verghese, and Lucianetti (2014) argue that missing from the literature is a judicious examination of how firms actually use performance measurement to orchestrate a responses to organizational challenges and whether such uses do in fact enhance operational performance over time.

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