Title: How Company Scandals Affect Other Firm’s Risk Perceptions

Authors: Sunmi Hirata and Manuela Rincon

Faculty Sponsor: Dr. Martin Grace, Chair, Department of Risk Management & Insurance

Introduction: In the past decade, environmental and cyber scandals have affected numerous companies. The research examines how companies report risks to their shareholders and whether risks like scandals, such as environmental losses or cyber-attacks influence how unrelated companies report risk exposures to their shareholders. After the 2001 market crash, the Sarbanes-Oxley Act was enacted in 2002, mandating that by 2005 companies take more responsibility for reporting their risk. This risk factor assessment is to be included as part of their annual security filing, commonly known as the 10-K.

Purpose: We want to study how events can affect a company’s risk reporting in its SEC filings and how this influences the risk perceptions of others in subsequent years.

Method: We obtained SEC Annual risk reports from the SEC.gov website. We chose two risks to examine: the 2007 TJ Maxx Cyber-attack and the 2010 BP Deepwater Horizon crises. We created a list of common risk words using dictionaries and thesauruses. We cleaned the data and then analyzed the documents using text mining methods in R. In addition, to the count of the various risk words we obtained information on the positive and negative sentiment and overall readability of the documents. We will do a similar analysis for the BP spill.

Results: In our preliminary analysis for the case of the cyber-attack, we have found three things. First, that the overall sentiment (positive versus negative words) was negatively related to the discussion of cyber risk. Second, we found that the overall discussion of risks was positively related to cyber risks. Third, we also found that over time the readability as measured by grade level increased.

Conclusion: So far our research has proven our initial conjecture true, with an increase in discussion about these risks in company filings. By focusing on another scandal, our process can be replicated with a few changes. We show this by applying what we did with the TJ Maxx scandal to the Deepwater Horizon scandal to see how risk to one company influences other company’s perception of risks.

KEY WORDS
SEC 10K, Risk Factors, Sentiment Analysis, Text Mining, Cyber Risk, Environmental Risk

Bibliography:

Feinerer, Ingo Introduction to the tm Package Text Mining in R( June 10, 2014) found at http://cran.r-project.org/web/packages/tm/vignettes/tm.pdf (February 11, 2015)