RISK MANAGEMENT AND CORPORATE GOVERNANCE: SAFETY AND HEALTH WORK MODEL

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ABSTRACT

Currently, engaging in corporate governance practices has become more important than in years past. Federal and state agencies are charged with collecting and disseminating vast amounts of data related to breaches of regulatory oversight including safety. As corporations are faced with the growing trend of managing seen and unforeseen events, there is a need to develop a systematic approach to mitigating injuries, especially from falls or chemical-related accidents, in the workplace. Thus, the authors use information related to OSHA violations to develop and discuss the "Safety and Health Work Model" based on the premise that companies need strategic frameworks to manage business operations and control safety risks in the work environment. Additionally, the authors discuss some recommendations to secure a safe workplace included in risk management processes and conclude with some outcomes (outputs) that are linked to securing a safe workplace.

I. INFLUENCE OF CORPORATE GOVERNANCE ON RISK MANAGEMENT

Risk management and oversight are generally considered as a subset of overall corporate governance. While most researchers agree that no one meaning of corporate governance exists, the concept is often described using the broad definition set forth by the Organization of Economic Cooperation and Development as a "system by which companies are directed and controlled" (OECD, 1999; Nerantzidis, Filos, & Lazarides, 2012). The governance of business is derived from two sources: regulatory governance which is obligatory and mandated by government regulation, and risk-based governance, which is voluntarily undertaken by business firms. Initially, federal, state, and local statutes were presumed to be sufficient for business

organizations to follow in order to operate safely and in a responsible manner (Hutter & Jones, 2007). These regulatory schemes generally set forth specific standards and means of compliance. However, while the extant literature identifies the effect of regulatory law on businesses and for the most part concludes that state influence through law is necessary, it has become apparent that regulations do not provide a sufficient authority over the business of risk management (Gunningham & Kagan, 2005). Private interests are increasingly regarded as more effective in achieving business objectives while at the same time attending to the needs of their stakeholders (van der Berghe, 1999).

Several explanations account for a shift toward private responsibility for managing risk. First, during the late 1980s, a global trend toward limitations on state regulation evolved and resulted in laws that were more loosely written to provide general standards rather than express laws that businesses must adopt. This in turn strengthened the internal oversight of business (Yang, 2011). The lower the involvement of regulatory agencies in determining what levels of risk are tolerable and how much enforcement is needed, the more efficient private enterprise becomes in managing risk. Second, a variety of non-state players, such as non-government organizations and trade associations, became prevalent over the past thirty years, demanding more accountability and transparency from businesses. Private entities have played an increasingly important role in governance because of their decisive advantages of access to information and resources compared to governmental agencies (Kern & Bulkeley, 2009). Third, budget cuts at all levels of government forced their public management functions to be outsourced to private entities (Osborne & Gabler, 1992). Thus, the management of risk has moved from the government to corporate governance (Hutter & Jones, 2007). In response, businesses have adopted management systems to identify, assess, and control potential risks arising in a myriad of business operations, most notably finance, environment, and safety.

As corporations are faced with the growing trend of managing seen and unforeseen events, it is imperative for companies to think about various ways in which to manage these seen and unforeseen events, identified as risks in this paper. One approach is to encourage companies to use the risk management approach to manage risks which includes identifying safety risks, analyzing the impacts of the safety risks, responding to the risks and establishing monitoring and controlling mechanisms to avoid or minimize the impact of the safety-related incidents (Project Management Institute, 2013). In this paper, the authors (a) use propositions to develop a safety and health model, (b) discuss in detail the elements of the model including benefits, and (c) close with some concluding thoughts.

II. INFLUENCE OF THE OCCUPATIONAL SAFETY AND HEALTH ACT ON RISK MANAGEMENT

In 2012, 4,628 workers were killed on the job (About OSHA, 2014). This statistic equates to 3.4 per 100,000 full-time workers were killed while at work and more than 12 deaths every day. In order to monitor and control the deaths and accidents that occur in the workplace, Congress created the Occupational Safety and Health Administration (OSHA) via the Occupational Safety and Health Act of 1970. The purpose of OSHA is "to assure safe and healthful working conditions for working men and women by setting and enforcing standards and by providing training, outreach, education and assistance" (About OSHA, 2014, p. 2).

According to the OSHA website, "OSHA is part of the United States Department of Labor. The administrator for OSHA is the Assistant Secretary of Labor for Occupational Safety and Health. OSHA's administrator answers to the Secretary of Labor, who is a member of the cabinet of the President of the United States" (About OSHA, 2014, p. 2). "The Occupational Safety and Health Act of 1970 covers most private sector employers and their workers, in addition to some public sector employers and workers in the 50 states and certain territories and jurisdictions under federal authority. Those jurisdictions include the District of Columbia, Puerto Rico, the Virgin Islands, American Samoa, Guam, Northern Mariana Islands, Wake Island, Johnston Island, and the Outer Continental Shelf Lands as defined in the Outer Continental Shelf Lands Act" (About OSHA, 2014, p.2).

III. MODEL DEVELOPMENT AND PROPOSITIONS

Our proposed Safety and Health Work Model recognizes that threats exist in the workplace and firms must adopt practices that minimize risks. The model incorporates risk management and corporate governance as essential components.

Corporate Governance

The corporate governance framework in organizations should (a) promote transparency; (b) be aligned with governmental agencies and legal rulings; and (c) articulate the business goals and operations of an organization (OECD, 1999). Assumption of business risk is paramount to success in some industries; however, risks that threaten organizational success must be mitigated or prevented (Sobel & Reding, 2004). Risks that are related to safety risks include problems that are sometimes related to meeting strategic goals. Thus, corporate governance is a process and approach that can be considered as a means to provide direction, authority and implementation of activities that mitigate and prevent safety risks (Sobel & Reding, 2004).

Risk Management

Risk management includes the processes of planning, identifying, analyzing, responding, monitoring and controlling a risk (Project Management Institute, 2013). Risk management, within the context of workplace safety and health, is an ongoing process that is committed to identifying safety risks, analyzing the impacts of the safety risks, responding to the risks and establishing monitoring and control mechanisms to avoid or minimize the impact of the safety incidents to the employees as well as the organization. Therefore, the overall goal of implementing a risk management approach is to reduce the probability and impact of occurrences that threaten safety and health (Project Management Institute, 2013) in various workplace environments.

In the private sector, a holistic approach to risk management has been adopted by many companies in which attention to physical losses from natural or man-made disasters is combined with management of all possible threats to businesses (Drennan, 2004). Under an enterprise-wide risk management approach, all areas of potential risks are treated on a coordinated basis with oversight by upper management, yet treated as part of every employee's job (Beasley, Clune & Hermanson, 2005). Scholars note that while the board of directors, particularly the audit

committee, is charged with the oversight of the company including setting corporate governance policies, the complexity of the governance function has evolved to include risk management. The responsibility of managing risks must be a part of the overall culture of the company in order to be successful (Brown, Steen & Forman, 2009; Delarosa, 2006).

External forces driving risk management are primarily based on compliance with the Occupational Health and Safety Act and the Occupational Health and Safety Administration (OSHA). OSHA is an illustration where a government agency believes that it is more effective to require private firms to develop their own safety plans rather than following prescribed regulations (Donahue & Zeckhauser, 2011). In addition, threats of lawsuits and concerns over perceptions of corporate social responsibility drive the need for insuring a comprehensive safety program.

Since the Union Carbide chemical plant disaster in Bhopal, India over 30 years ago to the more recent Upper Big Branch mining explosion in 2010, the governance over risk management has focused on operational safety, in particular to minimize risks to employees and the public. Concerns over safety generally fall within two broad categories: product safety and process safety. The former involves the assurance that the product and services produced or rendered are safe to operate or receive by the user and typically includes quality checks, testing, labeling and other activities to insure product safety. The threat of lawsuits for injuries caused by unsafe products is also a factor insuring product safety. Process safety involves assuring that the manufacture of a product is safe and includes internal safety rules, protective gear, mandatory safety checks, and a culture of safe operations of machinery and other potentially dangerous equipment or materials. A good example of the difference can be seen by comparing two companies: Boeing and ExxonMobil. Safety at Boeing is primarily concerned with producing aircrafts that are safe to fly while ExxonMobil is concerned with insuring that oil and gas are extracted and refined in a safe and environmentally benign manner (Valenti, Carden & Boyd, 2014).

Chemical Safety Risks

The former president of Port Arthur Chemical and Environmental Services, LLC pled guilty in federal court for violating OSHA including providing a work setting in which employees were exposed to hydrogen sulfide without protection causing the death of an employee (Korky, 2013). Hydrogen sulfide is a dangerous gas identified as a smell of rotten eggs. The greatest health danger of hydrogen sulfide is that the gas can be inhaled and absorbed through the lungs and at certain levels can cause the body not to be able to use oxygen and can impact the central nervous system (chemical asphyxiation). There are health issues also related to lower levels of hydrogen sulfide including irritation of eyes, nose, throat, and other areas related to breathing. At high levels of intact hydrogen sulfide can impact the body including shock, convulsions, trouble breathing, coma, and sometimes death (Korky, 2013).

Fall-Related Safety Risks

The BLS Report (2014) noted that there were 19,710 injury and illness cases in the specialty trade contractor category which is based on a rate of 64.1 injuries and illnesses per 1,000 full-time workers during 2012. This equated to injured workers requiring a median of 10 days of job transfer or restriction before returning to work. Per the 19,710 noted above, (a) 19,330 were males; and (b) most were between the ages of 35-44. Some examples of injuries identified during 2012 in the specialty trade contractors section included: (a) overexertion and bodily reaction; (b) being struck by objects and equipment; (c) sprains and strains; (d) cuts and lacerations; and (e) musculoskeletal disorders (BLS Report, 2014).

Flin, Mearns, O'Connor and Bryden (2000) noted that employees and other stakeholders beliefs about a safe work environment relate to their perceptions of managements' attitudes and actions related to safety. The aforementioned authors acknowledged that the tone for a safe work environment can be established by setting standards and prioritizing resources; however, there is still a need to discuss how sanctions actually transfer into effective processes and procedures that will mitigate or prevent safety issues in the work place.

> **Proposition 1: Employees expect that corporations provide a safe work environment. However, in some organizations management may not be practicing adequate corporate governance related to the mitigation and prevention of safety risks, resulting in a greater number of work-related injuries and deaths**.

Yuri Raydugin (2013) noted that safe environments and reputation are "soft" objectives that "are normally treated as additional goal-zero types of constraints: no fatalities or injuries, no negative impacts on environment and reputation" (p. 41). Raydugin (2013) further believed that having a safe environment is one of the objectives that provides the cornerstone of a risk management approach which is reflective of the company's project initiatives that are important to stakeholders. Gorman and Pauken (2003) also noted that being an effective leader or manager means more than just meeting objectives and turning over profits (hard objectives); but also, mastering the content and techniques that are required to provide a safe and secure working environment. Cooling (2013) reported that there is a growing phenomenon for safety to be part of enterprise-wide risk management approach. The enterprise-wide risk management approach entails compliance "with all applicable company and industry safety requirements and standards, including zero-goal in terms of safety incidents" (Raydugin 2013, p. 42). This enterprise-wide business approach includes corporate governance tactics that are transferred into "high corporate standards operated more safely, more professionally, and, ultimately, more profitably" (Dolan, 2012, p. 25).

> **Proposition 2: Having a safe environment is one of the "soft" objectives related to a risk management program. A zero tolerance constraint will result in fewer work place injuries and deaths.**

The absence of fall protection is one of the most frequently cited violations by OSHA during inspections of various worksites. For the fiscal year 2013, which includes time periods from October 1, 2012 to September 30, 2013, failure to provide protections from falls was the

number one cited violation by OSHA during its inspections at various companies ("Top 10 Most Frequently Cited Standards," 2013). Other cited violations in order of the number of citations after falls include: hazard communication, scaffolding, respiratory protection, electrical, wiring methods, powered industrial truck, ladders, lockout/tagouts, electrical, general requirements and machine guarding ("Top 10 Most Frequently Cited Standards," 2013).

In addition to being cited as the most frequent violation from October 1, 2012 to September 30, 2013, Huang and Hinze in their 2003 study also noted that inappropriate use of fall protection equipment and removal and inoperative safety equipment contributed to more than 30% of the falls in their study, which included fall statistics since 1997 on construction sites. Huang and Hinze (2003) further noted the following types of inadequate or inappropriate use of fall protection equipment: working on an elevator without a tied-off full body harness and unhooking the harness when moving from location to location.

Providing fall protection also includes adequate safety systems (Flin et al., 2000) and these systems not only consist of technology, but also supporting resources to ensure that the systems are working properly. The support resources include but are not limited to safety officials, safety committees, safety auditors and regulatory agencies. An example of a fall violation, which included implications for the entire safety system, occurred in Massachusetts when a contractor was cited by OSHA for "alleged willful, repeat, and serious violations of workplace safety standards regarding fall hazards" (Korky, 2013, p. 2) More specifically, the allegation was based on the claim that "workers at the site were exposed to fall risks from nine feet up to 30 feet due to inadequate or missing fall protection safeguards. Fall hazards related to front ladder misuse and inadequate personal fall arrest systems that could allow workers to fall more than six feet and stride lower levels in violation of OSHA standards were also found" (Korky, 2013, p. 2).

Although not as common as workplace falls, chemical related injuries are major concerns to OSHA because they occur in a variety of agricultural and manufacturing industries. Failure to implement adequate protections is often cited as the primary cause of injuries due to chemical releases and spills. In a recent report on the accident in Texas which claimed the lives of four workers, OSHA reported that the cause of the accident was the lack of safety precautions. "Had the company assessed the dangers involved, or trained their employees on what to do if the ventilation system stopped working, they might have had a chance," said Assistant Secretary of Labor for Occupational Safety and Health Dr. David Michaels (OSHA Regional News Release, 2014).

Proposition 3: There is a relationship between lack of safety protection (failure to respond to risks) and safety and health issues.

IV. SAFETY AND HEALTH WORK MODEL

The safety and health work model is based on the premise that companies need strategic frameworks to manage business operations and mitigate risks in the work environment (Story & Price, 2006).

Safety Risks (Input)

As corporations are faced with the growing trend of managing seen and unforeseen events, it is imperative for companies to think about various ways in which to manage these seen and unforeseen events, identified as safety risks. This model is explained with reference to risks associated with falls especially in the construction industries, but the framework is equally applicable to any industry and any type of employment-related accident.

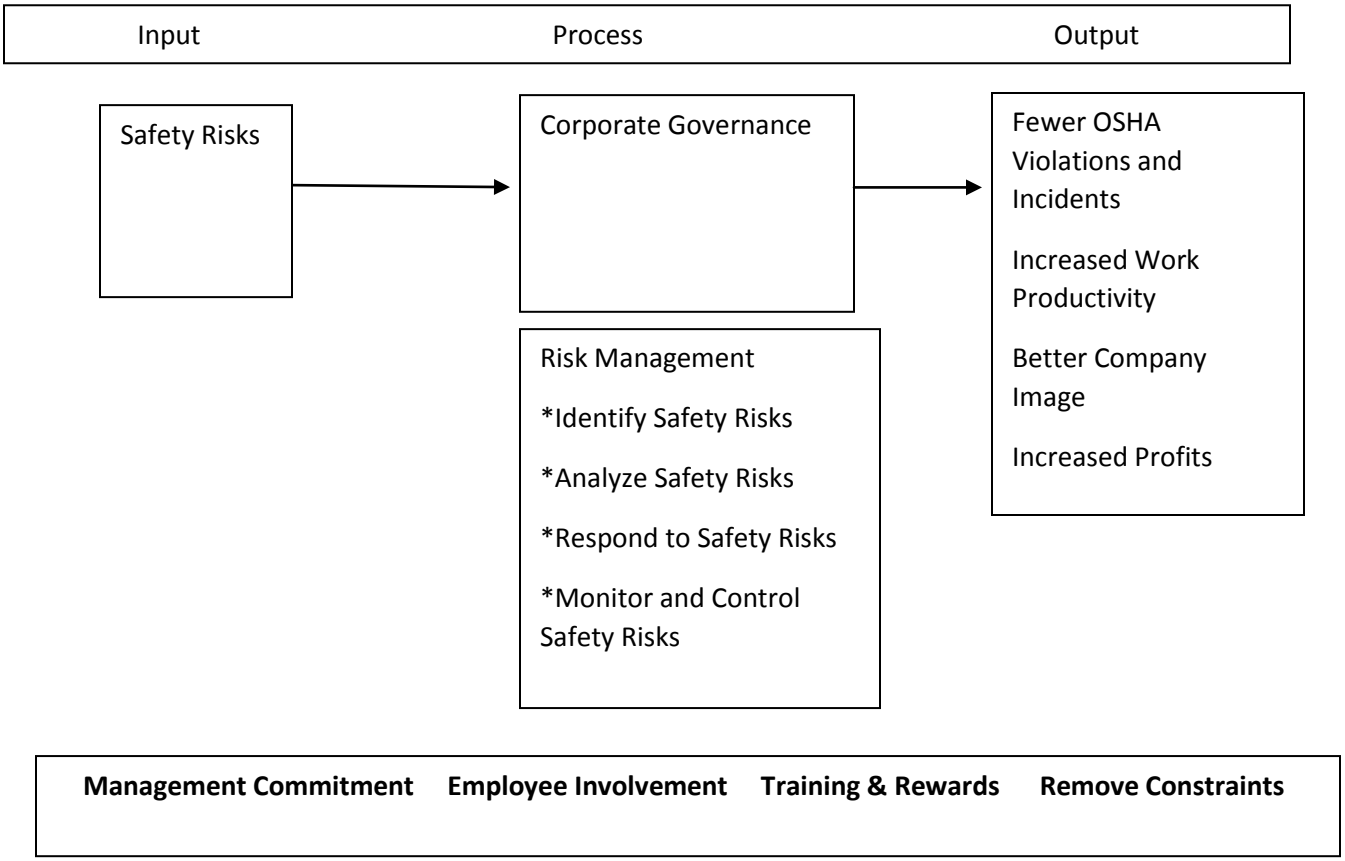

Figure 1: Safety And Health Work Model

Corporate Governance and Risk Management (Process)

As noted by Robert Cooling (2013), governance includes the system in which entities are controlled by their board of directions and includes a focus on identifying, analyzing, responding to and controlling risks (Project Management Institute, 2013). The authors contend that organizations should embrace zero-tolerance to safety infractions as a means of unbundling their corporate governance initiatives. Cooling (2013) has reported that there is a need for safety issues to be acknowledged by the entire board of directors and not just specific board members. Cooling (2013) believed that integrating safety issues into corporate governance activities was an effective way to involve all company workers. Thus, organizations need to develop a risk management plan to integrate all workers including: *identifying safety risks, analyzing the impacts of the safety risks, responding to the risks and establishing monitoring and controlling*

mechanisms to avoid or minimize the impact of the safety incidents (Project Management Institute, 2013). This risk management plan needs management commitment and employee involvement (Cooling, 2013; Korky, 2013) to ensure the risk management plan is effectively implemented.

The *identified safety risks* in this paper are related to injuries, especially falls, in the workplace. Thus, organizations need to include activities to ensure that there are plans to identify all hazards. For example, organizations can designate workers to complete worksite surveys including periodic reviews and observations to identify hazardous conditions. Additionally, there also needs to be a process in place for employees to report identified hazardous conditions without reprimands. This anonymous reporting may been in the form of phone calls or emails for the protection of the employees.

Analyze safety risk includes deciding how likely the fall incident will occur and the potential impact to the organization (Project Management Institute, 2013). In most instances assessing the risks also considers "balancing the level of risk against the measures needed to control the real risk in teams of money, time or trouble" (Health and Safety Executive, 2014, p. 2). The risk evaluation process should also include an examination of what the organization is reasonably expected to know about employee falls and the associated safety prevention. Some of the steps for assessment include conducting meetings with stakeholders to determine the likelihood of falls occurring in certain areas and discussing the impact of those falls, noting types of injuries most often caused by a fall (Project Management Institute, 2013). For example, managers may note that there is a high probably and high impact of falls when construction workers are replacing the roof, sidings and windows on a three-story residence.

Falls are the most frequently cited injuries in the OSHA standard for the construction industry and remain the leading cause of death (OSHA Regions News Release, 2014). Removing organizational constraints, such as time performance pressures, for certain types of jobs (Linguard & Rowlinson, 1998) help to ensure the ability to perform work safely in the areas where access to heights is required. Some of the other *responses to safety risks* include: preventing access to unsafe work areas, organizing work to reduce exposure to unsafe work areas and wearing protective equipment (Health and Safety Executive, 2014). Additionally, another response, as noted by the OSHA Regional News Release (August 5, 2014), includes fall protection equipment "such as guardrail systems, safety nets, warning-line systems or personal fall arrest systems" (p. 1). Thus, it is important for organizations to allocate resources for safety structures and equipment.

Monitoring and controlling processes include the processes for implementing, tracking and monitoring fall risks and include (a) processes such as executing risk responses; (b) tracking the identified potential fall risks to determine whether falls are likely to occur; and (c) evaluating the effectiveness of the overall fall risk management processes (Project Management Institute, 2013). An important consideration of monitoring and controlling processes includes regular reviews of the risk management process and evaluation of the following questions: (a) have there been any revisions in the fall prevention strategies?; (b) have all processes been implemented during the year?; (c) have workers identified additional fall problem areas?; and (d) have you identified lessons learned?

Monitoring and controlling processes also include training employees about safety processes (Cooling, 2013; Korky, 2013) and establishing rewards for adherence to zero tolerance practices (Linguard & Rowlinson, 1998). Safety training needs to ensure that all employees understand potential job hazards and are aware of the strategies to deal with the hazards. Additionally, the training needs to be updated and revised continuously based on changing work conditions.

Benefits of the Safe and Healthy Work Model (Output)

The benefits of implementing the safety and health work model include fewer OSHA violations (Danna & Griffin, 1999), fewer work place injuries or deaths, enhanced worker productivity (Cooling, 2013), improved company image (Dolan, 2012), and increased profits (Dolan, 2012). More specifically, the safety and health work model is focused on corporate governance practices that do not alienate stakeholders and humiliate various companies and professions (Cooling, 2013). These benefits are directly related to processes and procedures sanctioned by the board of directors and senior management levels and implemented by all employees in accordance with an enterprise-wide risk management approach.

In addition, maintenance of statistics helps to assess the overall safety and health risks and to identify activities to mitigate and reduce safety issues. "Statistics of work-related injuries and illnesses are an important aspect of occupational safety and health. These statistics provide the detailed information needed to make workplaces safer for the nation's workers" (BLS Report, p. 35).

V. CONCLUSION

The idea that "OSHA is making a difference" ("Commonly Used Statistics, 2014" p. 1) is supported by data. OSHA along with state partners, employers, safety and health personnel, unions, and safety and health advocates have worked together as a unit to make a difference. For example, "since 1970, workplace fatalities have been reduced by more than 65 percent and occupational injury and illness rates have declined by 67 percent. At the same time, U.S. employment has doubled" ("Commonly Used Statistics, 2014" p. 1). Additionally, "worker injuries and illnesses are down-from 10.9 incidents per 100 workers in 1972 to 3.4 per 100 in 2011" ("Commonly Used Statistics, 2014" p. 1).

Danna and Griffin (1999) developed a framework that reported inputs and outputs related to the well-being in the workplace which is consistent with the model presented herein. The consequences of not having a safe and healthy workplace include (a) individual consequences related to physical, psychological and behavioral consequences, and (b) organizational consequences related to health insurance costs, productivity/absenteeism and compensable disorders/lawsuits.

While the transfer of risk governance to a private role is for the most part believed to be necessary, it is not without limitations. Private governance codes are often vague and are implemented without sufficient enforcement mechanisms. The potential for ignoring governance mandates or categorical disregard of internal policies in exchange for increased profits is an

attractive temptation. In the financial arena, we witnessed huge collapses of corporations such as Enron and WorldCom which were caused by governance lapses and, in reaction, were followed by Congressional passage of the Sarbanes-Oxley Act of 2002 and regulatory responses by the Securities and Exchange Commission as well as the New York Stock Exchange. Thus, scholars suggest that private governance must be supplemented by institutional pressures from both society and governmental agencies (Mayer & Gereffi, 2010). Risk management, accordingly, stems from both internal authority and federal and state law, and serves herein as an approach to mitigating and eliminating safety risks.

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