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Impact of manager characteristics on corporate environmental behavior at heavy-polluting firms in Shaanxi, China

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ABSTRACT

Air pollution is a major health hazard in China and a serious focus of governmental concern. To reduce the levels of air pollution will take a strategic realignment of priorities for all of the major players responsible for monitoring and implementing environmental controls to air emissions. Gaining and maintaining compliance of on-the-ground company directors and managers is essential to adequate pollution control, but to date little is known about how managers of heavily polluting companies view pro-environmental measures in their company operation. This paper identifies common characteristics of managers in heavy polluting industries, and measures the impact these characteristics have on corporate environmental behavior based on the survey data that was collected in 2013 from sixty energy companies in China's Shaanxi Province. Personal characteristics of these managers include age, gender, place of birth, level of education, average monthly household income, department, position, environmental awareness, and environmental behavior. Empirical results show that 33.5% of managers that belong to companies with high corporate environmental behavior scores also have the highest level of environmental awareness and environmental behavior. Managers' environmental behavior, awareness and education are significantly positively correlated to corporate environmental behavior. The research also discovered that managers' seniority is positively correlated with corporate environmental behavior, which indicates that senior managers have higher environmental awareness and knowledge. The paper concluded that distinct differences between senior management types related to their core underlying values and these differences matter both for environmental protection and training. Understanding how company directors and managers view their roles in relationship to company environmental protection will require a nuanced approach that rejects a simple uni-dimensional conceptualization of company managers' relationship to environmental implementation. By extension, a “single-service” educational approach will also need to be rejected since one message aimed at one set of values will not tap into the range of environmental motivations and values currently held by those in management positions and therefore will be less effective than training approaches that are targeted at specific types of managers.

1. Introduction

The primary driver of anthropogenic climate change is emissions from heavy polluting industries (Reid and Toffel, 2009). As China faces increasing pressure domestically and abroad to curb its environmental impact, Chinese companies and their leaders, who collectively play a vital role in companies' environmental behaviors (Daily et al., 2009; Jabbour, 2013), are under increased pressure to be environmentally proactive. As a result, these managers are looking for environmental solutions that simultaneously address pollution problems while increasing sustainability scores and economic competitiveness (Norberg-Bohm, 1999; Porter and Linde, 1995).

China has imposed strict environmental policies to restrict corporate environmental behavior particularly in the heavy polluting industries. In 2007, China explicitly stipulated that governments and companies should disclose their environmental information (Environmental Disclosure Rules (Trial)). In 2010, The

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Guideline of Environmental Information Disclosure for Listed Companies (Draft) once again mandated that companies from heavily polluted industries must periodically disclose their environmental information.

The Chinese government's evaluation system used to assess official's performance is a powerful tool to force managers to actively promote environmental protection. Since China's Economic Reform in 1979, China has gradually shifted from a planned economy to a market economy. However governments in China normally possess considerable control over state-owned enterprises, including the right to nominate, appoint and review managers – especially senior ones (Wang et al., 2014; Zhang and Zhong, 2011; Zhou, 2009). The Chinese government's "one-vote veto" policy, widely used to assess officials' performance, allows a single negative mark to restrict a party official's promotion, even if the other assessment indicators have been met. In 2011, the "Twelfth Five-Year-Plan of Environmental Protection" established that government develop environmental protection indicators include an assessment of officials' environmental protection performance in the "one-vote veto" policy. Since 2012, Hubei, Heilongjiang etc. provinces have also implemented the "environmental protection one-vote veto" policy, adding environmental protection assessment objectives to official and SOE executives performance assessment, (e.g., total pollution control, reduction of haze pollution). If the goals of environmental protection have not been achieved, it will affect the promotion of officials and executives. As a reaction to the severity of Chinese environmental pollution, environmental protection is increasingly incorporated into the assessment system, meaning that officials can't be promoted if their company's performance on environmental protection does not meet the assessment level specified. Since in Chinese culture becoming a government official is extremely competitive and Chinese citizens are willing to do whatever it takes to gain the social and financial capital that comes with the role, managers are likely to actively incorporate corporate environmental behavior (CEB) in China heavy polluting industries.

As industries face increasing social and environmental challenges, their leadership not only must ensure their companies' sustainable economic growth, but are also expected to meet a triple-bottom line of economic, environmental and social value creation (Silajdzic et al., 2015), which means that leaders will need to develop strategies that allow them to meet multiple, and potentially conflicting, company goals. Corporate environmental behavior (CEB), a standard set by an international member organization that helps emerging economies and countries transition to different levels of performance, is defined as the set of strategies deployed by a firm to manage its business environment, whether as a response to external pressures or as a proactive measure to mitigate its own environmental impact (Blok et al., 2014). CEB is also referred to as corporate social and environmental responsibility (Egri et al., 2004), corporate environmental responsibility (He and Chen, 2009), corporate sustainability and corporate social responsibility (Valiente et al., 2012). CEB strategies often include the firm's social responsibility and behaviors relevant to stockholders, employees, customers and suppliers. Such strategies impact internal organization, production quality, work environment, employee rights, accountability systems, internal management of environmental and social issues, and training programs (Mazurkiewicz et al., 2006). For instance, CEB would include a company's environmental commitments, their goals for clean production, their disclosure environmental information, environmental operations, environmental training, and environmental manage tools (Jamison et al., 2005; Sarkar, 2008).

Consensus findings have found that severe regulations and laws have the strongest positive effects on CEB (Dong et al., 2010; Liu et al., 2010), while both technological investments (Bansal and Roth, 2000) and market pressure from customer's green demands have significantly positive effects on CEB (Chen and Soyez, 2003; Chen et al., 2012; Li, 2010). In addition, studies have shown that larger companies have better CEB than smaller companies (Li et al., 2013; Zhu et al., 2013) and companies with better reputations and financial conditions also have better CEB scores (Annandale and Taplin, 2003; Konar and Cohen, 1997; Gottsman and Kessler, 1998).

There is strong consensus that the environmental shareholders have a positive and significant impact on corporate environmental performance and environmental behavior (Lee and Lounsbury, 2011; Reid and Toffel, 2009). Environmental shareholders' resolution will change the negative effect of firm size on CEB. Shareholder groups have the power to form new organizations, launch takeover actions against individual firms, use existing governance to oust managers, and seek legislative and regulatory changes to improve a firm's environmental behavior (Schneiberg and Lounsbury, 2008).

Environmentally conscious managers often have positive attitudes towards environmental protection, which positively influences CEB. Green entrepreneurship has been a mainstream strategy in doing business (Hall et al., 2010) and has gained momentum as a global movement that encourages businesses to pay closer attention to their social and environmental impact (Zu, 2014). A business executive's values and ability to deal with environmental matters directly determines a company's environmental decision-making and its implementation and enforcement (Rivera, 2001; Papagiannakis and Lioukas, 2012). Managers establish close relationships with employees, spread environmental values, model environmental behaviors, and encourage employees to develop environmentally-conscious behaviors in workplace (Robertson and Baring, 2013).

Employee environmental training and education is an important initiative (Jabbour, 2013; Gunasekaran and Gallear, 2012; Jackson et al., 2011) that a variety of countries have used to increase environmental compliance; the number of companies involved in environmental training continues to increase each year (Wagner, 2011). For example, Mexico, Germany, the United States, India and other countries have conducted Sustainable Development and Environmental Training programs designed to simultaneously include economic growth, environmental protection and social equity in business planning and decision-making (Daily et al., 2012; Unnikrishnan and Hedge, 2007).

While China's environmental management and education policies are still in their infancy, several high-polluting energy firms have already taken steps to improve their corporate environmental behavior. Shaanxi Yanchang Petroleum Co. Ltd. has provided special environmental training on the newly revised environmental protection law to its technology and environmental management staff (Shaanxi Yanchang Petroleum Co., 2014). Shenhua Corporation has implemented social responsibility and environmental management courses for managers (Shenhua Corporation, 2013) and Beiyuan Corporation has all employees trained on the implementation of environmental protection laws (Shaanxi Beiyuan Corporation, 2014). Sinopec Inc. has created a Health, Safety, and Environment (HSE) management system to carry out specialized environmental training for staff (Sinopec Inc., 2011). In the main, however, larger and state-owned heavily polluting companies in China focus more on training regular employees rather than managers and focus on safety, technical operations, and staff skills rather than internal environmental management and environmental impact. Training opportunities for managers and directors could be an important means to encourage environmental activities in a business climate that positively values such behavior.

Studies of Chinese managers' environmental characteristics and its effects on CEB are rare. The literature available primarily focuses