



Analysis

Motivations for implementing environmental management practices in Indian industries



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ARTICLE INFO

Article history:

Received 5 July 2014

Received in revised form 29 October 2014

Accepted 2 November 2014

Available online 13 November 2014

Keywords:

Environmental management system

Factor analysis

Econometric model

Hypothesis testing

Research questionnaire

Small and medium enterprises

ABSTRACT

The motivations to implement environmental management system (EMS) practices in Indian industries are explored empirically. The study presents a survey of 104 industries from different sectors to identify the main motivational factors and firms' characteristics that determine the adoption of EMS practices by firms. The empirical evidence suggested that the comprehensiveness of the adopted EMS practices is positively influenced by relational motivations as firms consider their image, compliance and prevention of environmental incidents as significant drivers to implement EMS practices. Firms are also expected to adopt EMS practices to stay competitive if other firms are implementing similar EMS practices. However, the results show that Indian firms do not consider innovation and cost saving as a significant motivation to employ EMS practices. The findings also confirm that larger firms are more likely to adopt comprehensive EMS practices compared to small and medium enterprises (SMEs). The results show that compared to the service sector, firms in manufacturing, chemical and agricultural sectors are more likely to adopt comprehensive EMS practices.

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1. Introduction

A growing number of companies globally are now recognizing the importance of sustaining the natural environment. To reduce environmental impacts of their operations, companies are developing new environmental strategies and programs in order to have higher potential environmental benefits (Reid and Miedzinski, 2008; OECD, 2009). The environmental management system (EMS) provides the guidelines based on “plan, do, check, act” model for continual improvement of environmental performance of organizations with respect to their activities/business operations (Carruthers and Vanclay, 2012). It enables integration of business operations and natural environment with the objective of taking a proactive approach to sustain the natural environment. There has been a significant increase in the number of firms, which have adopted and certified their EMS practices (Liu et al., 2010; Prajogo et al., 2012; Carruthers and Vanclay, 2012). This change in business approach has burgeoned the interest of researchers to understand the reasons why firms adopt EMS practices. The motivations for this change in business approach are different, which may include intent of reducing the environmental impact of business operations, creating competitive advantage and improving stakeholder relationship (Bansal and Roth, 2000; Banerjee et al., 2003; González-Benito and González-Benito, 2005; Prajogo et al., 2012; Singh et al., 2014). Cogliance and Nash (2001) emphasized that firms are unlikely to follow

systematic management approaches to improve their environmental performance without having comprehensive EMS.

Several studies have been undertaken to empirically examine the relationship between different motivational drivers and adoption of EMS practices (Bansal and Roth, 2000; Fryxell and Szeto, 2002; Potoski and Prakash, 2005; Prajogo et al., 2012). For instance, Bansal and Roth (2000) have identified three basic environmental motivations – competitiveness, social responsibility and legitimation that lead firms to embrace ecologically responsive initiatives, which help in mitigating a firms' impact on overall ecosystem quality. Later, a similar empirical study carried out by González-Benito and González-Benito (2005) for Spanish firms explained environmental motivations as competitive, ethical, and relational to adopt ISO 14001 environmental management standard. Gavronski et al. (2008) have mentioned that external stakeholder pressure, future business and legal concerns and internal influence are the important factors which motivate firms to adopt ISO 14001 in Brazilian companies. Johnstone and Labonne (2009) have also observed that the motivation for introduction of EMS and ISO14001 certification in seven OECD countries is to improve environmental performance. Further, they showed that stakeholders such as market participants and regulatory agencies are important for improving overall environmental performance. However, results reported by Boiral and Henri (2012) have questioned the efficacy of ISO 14001 on environmental performance. De Oliveira et al. (2010) have reported that by greening their operations, firms are enjoying benefits in their operations, including cost reduction, productivity, and innovation. It has also been observed in the literature that the positive impacts of EMS facilitate environmental innovations for developing new products and processes with minimal environmental impacts (Rehfeld et al.,

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2007; Wagner, 2008; Khanna et al., 2009; Demirel and Kesidou, 2011). For example, Carruthers and Vanclay (2012) have observed that the EMS process offers great potential for the improvement of robust management systems that overcome many of the established barriers to the adoption of innovations. However, it has been reported that smaller firms have distinct motivations compared to larger firms to adopt proactive EMS practices (Lepoutre and Heene, 2006). Further, Bowen (2000) has reported that most of these studies show significant correlation between firm size and environmental performances. Morrow and Rondinelli (2002) while comparing large corporations in the United States with five small and medium-sized energy and gas companies in Germany reported that these German companies had similar motivations to adopt EMS practices but somewhat different priorities. These German energy and gas companies were primarily motivated to improve documentation, regulatory compliance and increase the efficiency of their operations. Anton et al. (2004) and Etzion (2007) have reported that the larger firms which have more resources are likely to adopt more comprehensive EMS practices compared to smaller firms. Thus, this study is aimed to identify new empirical evidence regarding the factors that motivate firms to adopt EMS practices and extend the previous research in two important ways. First, this study examines the comprehensiveness of EMS by using composite variables to include different EMS practices that capture the systemic and integrated efforts of planning, implementation and monitoring in order to improve firms' environmental performance instead of the adoption of single environmental practice that has been the focus of earlier research. Since the adoption of EMS practices is voluntary, firms show significant variations in the adoption level of EMS practices. Therefore, it is informative to consider the comprehensiveness of EMS through composite variables rather than a single environmental practice. Secondly, most of the current studies are in the context of the developed countries having different political, economic, social and technological conditions compared to developing countries. Thus, the motivations to adopt proactive environmentalism in developing countries are expected to be quite different from the motivations in developed countries. Furthermore, the limited numbers of studies that have been conducted in the developing countries have not specifically and fully explored the motivational factors and their relationship with proactive environmentalism (Sangle, 2010; Gangadharan, 2006; Seroa da Motta, 2006; Zhang et al., 2008). This study addresses this gap and investigates different motivational factors that influence the adoption of EMS practices in Indian firms. The study draws on the comprehensive research survey data collected during 2011–12 to investigate the EMS practices of Indian firms and would be the first of its kind for Indian industries. The analysis would be particularly relevant in the context of developing countries which have similar industrial growth potential in the region and therefore, would provide a better understanding of factors that motivate firms to adopt voluntarily EMS practices. This understanding would help managers, policy makers and regulators determine the relative efficacy of different motivational measures and firms' characteristics that facilitate the adoption of EMS practices in similar settings.

2. Theoretical Perspective and Hypothesis Development

The existing empirical research has shown that firms' motivation to adopt EMS practices is influenced by different factors. The theoretical perspectives based on institutional theory suggest that organizations are motivated to increase their internal efficiency and external legitimacy (Bansal and Roth, 2000; Bansal and Hunter, 2003; Khanna and Anton, 2002). While the resource based perspective postulates that firms' resources and capabilities lead to the adoption of proactive environmental strategies to gain competitive advantage (Aragon-Correa and Sharma, 2003; Darnall and Edwards, 2006; Lopez-Gamero et al., 2009). Prajogo et al. (2012) suggest institutional and resources based perspective as complementary for a more comprehensive explanation on the motives and benefits implications of EMS practice adoption. Based on these theoretical perspectives the implication of different drivers

on the comprehensiveness of firms' EMS practices (CEP) can be hypothesized and represented schematically as shown in Fig. 1. This study considers four different motivations i.e. relational, innovative, operational and business competitiveness. Each motivation is influenced by related variables (indicator/proxy) and leads to the adoption of different EMS practices (Bansal and Roth, 2000; González-Benito and González-Benito, 2005). The comprehensiveness of EMS practices adopted is measured as the sum of different EMS practices being adopted by the firms (Anton et al., 2004). These motivations and their relationship to the comprehensiveness of adopted EMS practices are described below to develop different hypotheses.

2.1. Relational Motivations

Firms implement environmental practices in an attempt to legitimate their actions according to the established regulations, norms, values and beliefs (Suchman, 1995; Bansal and Roth, 2000). The firms might seek to establish healthier relationship with their stakeholders by adopting EMS practices for better regulatory compliance, preventing and controlling environmental accidents and developing capabilities for the integration of local communities. This could drive potential strategic benefits, which include firms' image and reputation as being socially responsible (González-Benito and González-Benito, 2005). Thus, the adoption of EMS practices may be viewed as an indication of firms' commitment to adopt comprehensive EMS practices for improved relationship with their stakeholders. Therefore the following hypothesis is proposed:

Hypothesis 1. *The adoption of comprehensive EMS practices by a firm is positively related with relational motivations, i.e. the stronger the firm's perception that adoption of EMS can improve its relationship with its stakeholders, the higher the chances that the firm will adopt more comprehensive EMS practices.*

2.2. Innovational Motivations

Previous studies have analyzed the effect of EMS practices on environmental technological innovation (Renning et al., 2006; Wagner, 2008; Kesidou and Demirel, 2012). Wagner (2008) reported that the adoption of EMS practices facilitated the development of strategic resources, which have positive impact on the innovation capabilities in general. Renning et al. (2006) have supported this view by confirming the importance of Eco-Management and Audit Scheme (EMAS) for environmental innovations among certified facilities in Germany. Kesidou and Demirel (2012) also stressed the importance of organizational capabilities related to EMS for eco-innovation and emphasized that such organizational capabilities are not only significant to undertake innovation activities but also play an important role in increasing the level of resources allocated for innovation. The OECD (Organizations for Economic Co-operation and Development) project also aims to promote the concept of eco-innovation to stimulate the development of new technologies and systemic solutions to global environmental challenges (OECD, 2009). Thus, environmentally responsive firms are able to promote the development of modern technologies and products which are more environment-friendly to minimize emissions and waste, by cutting down the amount of inputs used for production and/or by substituting the inputs with more environment-friendly alternatives. Hence, the following hypothesis is proposed.

Hypothesis 2. *The comprehensiveness of adopted EMS practices by a firm is positively related with innovational motivations, i.e. the stronger the firm's perception that adoption of EMS can promote innovation to develop new technology and products, the higher the chances that the firm will adopt more comprehensive EMS practices.*

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