

Exploring role of green management in enhancing organizational efficiency in petro-chemical industry in India



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ABSTRACT

Amidst growing environmental concerns of the consumers and the stakeholders, green management has assumed significant role in today's business world. Such green management practices have been evaluated with particular focus on the organizational capability developed towards improvement of environmental performance leading to better business performance in terms of product improvement, process improvement and green innovations in the context of Indian petrochemical industry. This study presents an empirical evidence of the impact of the green management practices on the performance of petrochemical industry. Quite consistent with the theoretical views, a positive and significant relationship between green management practices and organizational efficiency in the capital intensive petrochemical industry in India is established. The study reveals that proactive environmental attitude of top management is absolutely essential to successful implementation of green management practices that eventually culminate in enhanced organizational efficiency in addition to serving the great cause of protection of the environment. The concerned petrochemical industry has ample scope for improvement of organizational efficiency through green innovation approach. The findings contribute an advance in the understanding of green management practices that envisage use of eco-friendly process and product involving reduced energy, man and material while generating minimum waste thus limiting the adverse environmental impacts to the lowest possible level. Through scientific measurement of the major effects, this study drives to the conclusion that effective green management culture should be developed within the organization beginning at the top level of the management hierarchy as the same will eventually be translated into efficiency outcome to the organization and immense benefit to the environment.

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1. Introduction

In the era of profit emaciation especially in a highly competitive global market, where the industries are drastically seeking replacement of old and polluting technologies with new and green technologies, green management is rapidly evolving as a management paradigm for improving organizational competitiveness and performance (Schniederjan et al., 2006; Pal and Dey, 2013). Firms now need to closely monitor changes in the environment, evaluate new technologies and best management practices. Empirical studies suggest that firms achieve higher levels of profitability and organizational performance through successful implementation of green management practices (Claver et al., 2007; Zhang et al., 2008). Improvement in green management practices under the

pursuit of proactive top management commitment as a learned and stable pattern of collective activities helps in improving operational efficiency and overall business performance (Yam et al., 2004). It is accepted that green management practices help firms to imitate the best practices around the world and even in order to be more adaptive and flexible to the environment uncertainty. Process improvement is viewed as an important strategic tool for green management. In this context, understanding role of green management in organizational efficiency of petrochemical industry assumes significance as the range of products and the production processes have huge environmental impact. Conceptualizing the organizational performance within the green management framework, this study contributes to preliminary but vital insights in effective implementation of green management practices in petrochemical sector. Despite the growing importance of green management practices, its impact on business performance of petrochemical industry has not been investigated. This study attempts to fill this research gap. The paper begins with a discussion on

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theoretical context and research hypotheses on role of green management in organizational efficiency. Subsequently, hypotheses are tested with empirical evidence from petrochemical business in India. In concluding section, the main findings are summarized with implications for future research.

2. Literature review

Two fundamental propositions are axiomatic to the theory of green management and these are (1) green management practices help organizations to improve their reputations and gain competitive strength and achieve organizational efficiency (Schniederjan et al., 2006) and (2) firms tend to follow the structure, process, norms and management practices of a dominant institution in order to be more adaptive and resilient to the turbulent environment which is viewed as organizational isomorphism (Young et al., 2001; Corbett and Kirsch, 2001). Competitive market forces and intense competition force firms to improve production process and management practices to retain and improve competitive edge over their counter parts. Thus organizations tend to imitate and develop the best practices over time in order to improve their performance and stay competitive in global markets (Form, 1979; Mellat-Parast et al., 2006). This implies that close monitoring of the changes in the environment and proper understanding of the core competencies of themselves as well as of their competitors are essential. Successful implementation of practices associated with green innovation and management can create a competitive environment within an organization. This in turn helps evaluate new technologies and processes; compare and assess organizational structures, best practices, and business strategies which have significant impact on organizational performance (Hermann et al., 2007; Chen, 2008). Success of green management practices largely depends on environmental knowledge and attitude of top management. Empirical findings (Wu, 2009; Bai and Sarkis, 2010; Lin et al., 2011; Tseng, 2013) show that the development of necessary infrastructure for effective green management with a particular focus on production process, product and technology innovation aspects has high potential for improvement in profitability through improvement of cost efficiency and sales performance (Florida and Davison, 2001; Melnyk et al., 2003). Based on this theoretical foundation the conceptual model as presented in Fig. 1 was constructed.

2.1. Top management commitment, green management, and organizational efficiency outcome

Significant attention by researchers in strategic management literature has focused on environmental attitude of top level managers in effective implementation of green management practices within an organization (Young et al., 2001; Zhu and Sarkis, 2004; Sharma and Gadenna, 2008). It is expected that firms with high levels of top management involvement witness higher level of success of green innovation initiative leading to higher level of efficiency outcome such as product improvement, production process improvement and technological innovation. Top level management is assumed as the driver of green practices as it effectively influences the organizational culture and motivational disposition of the target unit to accept and integrate the green innovation practices (Salvado et al., 2015; Singh et al., 2014). Green practices may represent one of the most important and sustainable sources of competitive advantage for an organization where knowledge of top management plays a decisive role. Firms are more likely to embrace green management practices if the senior management bestows a high worth for environment and its protection (Qi et al., 2010).

Based on this discussion, the study proposes the following hypothesis:

H1. Environmental commitment of top level management is more likely to have a positive impact on green management practices in petro-chemical industry.

2.2. Green management practices

Green management practices have received substantial importance in corporate firms with particular emphasis on eco-friendly product design, design of production process and innovation in novel technology (Tseng, 2013). Empirical evidence shows that well-designed business strategy by using management initiatives towards eco-friendly equipment and technology enhance the core competency which in turn raises their competitive advantage in the market (Klassen and Vachon, 2003; Melnyk et al., 2003; Lin et al., 2011). Some major objectives of green management envisages reduction of redundant steps in production and packaging, in use of

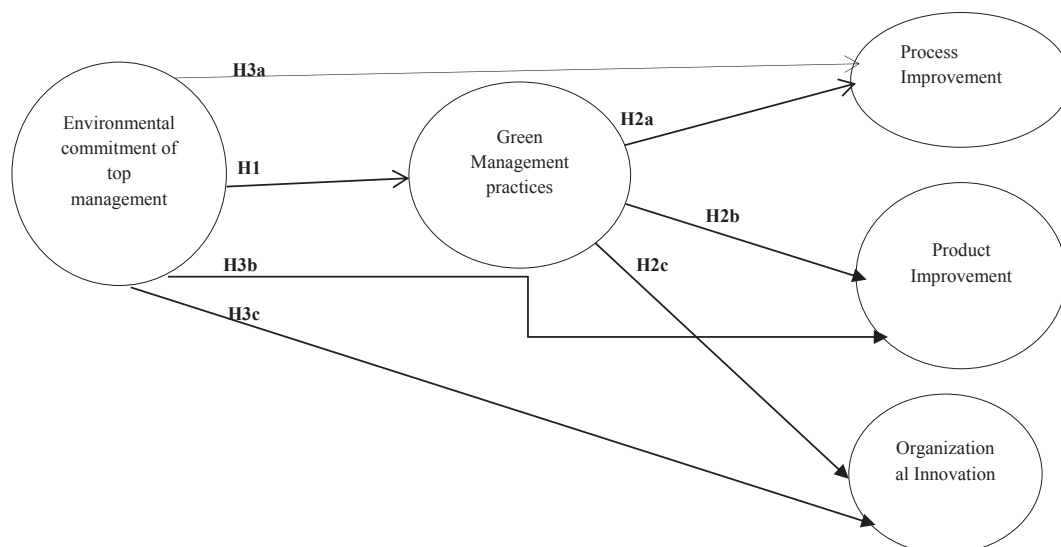


Fig. 1. The conceptual model for the relationships among environmental commitment, green management practices and organizational efficiency outcome.

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