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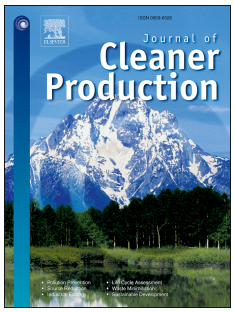

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Behind Eco-innovation: Managerial Environmental Awareness and External Resource Acquisition

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Abstract

What drives eco-innovation? This study integrates the managerial cognition perspective and the resource dependency perspective to examine how managerial environmental awareness (i.e., managerial environmental risk awareness and managerial environmental cost-benefit awareness) and external resource acquisition (i.e., from business networks and political networks) affect corporate eco-innovation activities (i.e., eco-management innovation, eco-process innovation, and eco-product innovation), and analyzes their interaction effects. A sample of 144 firms in Zhejiang province in China supports our hypotheses.

Key words

Eco-innovation, managerial environmental awareness, resource acquisition, managerial cognition theory, resource dependency theory

Introduction

Concerns about ecological innovation (or eco-innovation) have grown significantly in both practice and academia during the past two decades (Dangelico & Pujari, 2010; del Río, Peñasco, & Romero-Jordán, 2016; Diaz-Garcia et al., 2015; Lin et al., 2014; Schiederig et al., 2012). Eco-innovation is an overlapping concept between corporate social responsibility (CSR) and innovation (Dangelico & Pujari, 2010; Wagner, 2010). In this paper, we define eco-innovation as "the creation of novel and competitively priced goods, processes, systems, services, and procedures designed to satisfy human needs and provide a better quality of life for everyone with a whole-life-cycle minimal use of natural resources (materials including energy and surface area) per unit output, and a minimal release of toxic substances" (Reid & Miedzinski, 2008: P2).

Due to the importance of eco-innovation for national, industrial, and corporate sustainable development (Mirata & Emtairah, 2005; Porter & Van der Linde, 1995), identifying the factors that drive corporate eco-innovation is a hot topic in multidisciplinary research (Bossle et al., 2016; Diaz-Garcia et al., 2015; Kemp & Oltra, 2011). The literature highlights the importance of institutional, organizational, and individual factors in driving eco-innovation, such as stakeholders pressures from governments (Berrone et al., 2013), customers (Kesidou & Demirel, 2012), and competitors (Park, 2005), strategic motivation (e.g., cost-saving, building image) (Demirel & Kesidou, 2011), and managerial behavior intent (Chou et al., 2012; Cordano & Frieze, 2000). Nevertheless, two important but relatively underexplored questions merit further investigation.

First, what is the role of managerial environmental awareness when firms make eco-innovation decisions? Less attention has been paid to managerial cognition as an important driver of eco-innovation (Danihelka, 2004; Gadenne et al., 2009), despite the critical role that managerial interpretation of environmental issues plays in firms' strategies, as documented by managerial cognition theory (Kaplan, 2011; Stimpert, 1999. del Rio et al. 2010) provide a system view of barriers to eco-innovations. However, how firms respond to the environment depends on how managers *interpret* that environment. As Corral's (2003) influential work shows, perceived technological capabilities and perceived economic risk are two important drivers of the willingness of a firm to adopt or develop cleaner technologies. Moreover, Zhang et al. (2013) use a sample of Chinese firms and show that perceived attitudes, social pressure, and behavioral control have important effects on enterprises' willingness to adopt and develop cleaner production technologies.

Second, how does external resource acquisition drive eco-innovation decisions? The literature overemphasizes the role of internal resource endorsement or capability (Aragón-Correa et al., 2008; Chen, 2008; Horbach, 2008; Horbach et al., 2012), but gives little attention to the external complementary assets (with some exceptions: De Marchi, 2012; Horbach et al., 2012; Johnston & Linton, 2000), which can be acquired through social networks (Park & Luo, 2001). However, as the *resource dependency theory* (Pfeffer & Salancik, 1978; Hillman et al., 2009) predicts, firms can be characterized as open systems; their behavior is constrained and affected by their environment and thus

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