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Environmental pressures and performance: An analysis of the roles of environmental innovation strategy and marketing capability

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ABSTRACT

The purpose of this study is to explore the relationship between environmental pressures (i.e. environmental regulation and stakeholder pressures) and performance considering the mediating role of environmental innovation strategy and the moderating role of marketing capability. Both primary data collected from 121 UK-based manufacturing firms and secondary data on financial performance of the firms is used to test the proposed relationships. The results show that environmental innovation strategy fully/partially mediates the relationship between environmental regulation/stakeholder pressures and environmental performance, and partially mediates the effect of environmental regulation on financial performance. The results also indicate that marketing capability significantly moderates the relationship between environmental regulation and environmental innovation strategy. Drawing upon contingency theory and dynamic capability view, by testing the mediation and moderation effects, the results of this study provide managers with valuable guidance for developing environmental innovation strategy.

1. Introduction

It is widely accepted that firms face pressures from various stakeholders (e.g. government, customers and suppliers) on implementing environmental initiatives (Delmas and Toffel, 2008; Sarkis et al., 2010; Yu and Ramanathan, 2015). However, the outcome of taking proactive environmental initiatives on the performance of firms is often contradictory. Traditionally, it has been argued that there is an inherent conflict between environmental protection and firm performance (Eiadat et al., 2008). Porter and van der Linde (1995, p. 98), however, argue that "properly designed environmental regulation can trigger innovation that may partially or more than fully offset the costs of complying with them". In other words, discovering win-win solutions to environmental regulation requires firms to perform proactive search for innovative solutions (Porter and van der Linde, 1995). To generate win-win solutions that promote economic and environmental benefits, firms have begun to place a heavy emphasis on innovation, and in particular, on environmental innovation strategy (Amores-Salvadó et al., 2015; De Marchi, 2012; Doran and Ryan, 2012; Eiadat et al., 2008). *Environmental innovation strategy* is defined as "a class of manufacturing practices that include source reduction, pollution prevention, and the adoption of an environmental management system" (Eiadat et al., 2008, p. 133). The literature has recently given increased attention to the important role of environmental innovation strategy in helping firms achieve sustainable competitive advantage (Ambec et al., 2013; Eiadat et al., 2008; Lanoie et al., 2011). However, research examining the environmental pressures–environmental innovation strategy–performance relationship has been limited (Eiadat et al., 2008), and to date there has been little empirical investigation of the mediating role of environmental innovation strategy.

In addition, the influence of environmental innovation strategy on firm performance is not straightforward. For example, a firm that has higher capability to utilize its scarce resources to achieve the desired outcomes is likely to achieve higher performance (Eisenhardt and Martin, 2000; Teece et al., 1997). Such "inimitable" capabilities often include superior knowledge about the market, customers, and supply chain network that is imperative to design and implement any environmental innovation strategy. *Marketing capability*, defined as the integrative process in which a firm uses its market knowledge, customer and supplier-sensing abilities, and relationship building with all its stakeholders is one such significant differentiator for the firm to achieve superior performance (Nath et al., 2010; Yu et al., 2014). Extant literature is rather limited to explore how marketing capability can moderate the environmental pressures–environmental innovation strategy–performance relationship.

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To address the two research gaps, this study draws on two distinct theories. In order to understand the mediation role of environmental innovation strategy, this study uses contingency theory (CT). The fundamental premise of CT is that a firm can achieve superior performance by selecting an appropriate organizational strategy (such as environmental innovation strategy) to fit the environment (such as environmental regulation and stakeholder pressures) (Van de Ven and Drazin, 1985; Walker and Ruekert, 1987). Although CT has been widely used in the strategic management literature, its application to understand the mediation role of environmental innovation strategy is scarce (Eiadat et al., 2008). To explore the moderating role of marketing capability, this study uses dynamic capability view (DCV) theory. DCV states that a firm can achieve better performance if it can respond quickly to the dynamic changes in the environment (Jarvenpaa and Leidner, 1998; Teece et al., 1997). As changes in the environment represent the changes in competition, customer needs and other stakeholder demands, therefore understanding the influence of marketing capability is critical. Extant studies in DCV to explore the role of environmental pressures on firm performance often overlook the potential role of organisational capabilities such as marketing (Mariadoss et al., 2011; Weerawardena, 2003).

In doing so, the study attempts to contribute to both research and practice. From research perspective, this study contributes to both CT and DCV literature in their application towards environmental competitiveness issues. First, governmental regulations and stakeholder pressure have made firms to respond to environmental changes dynamically. Therefore, understanding the mediating role of environmental innovation strategy and moderating role of marketing capability is now imperative. Second, the mediation and moderation framework used in the study aims to explain how the influence of environmental pressures on performance is rather dependent on the ability of the firm to respond based on their innovativeness towards developing a long-term environmental strategy and adapting to the marketing needs. From practice perspective, this study provides guidelines to managers on how to improve on two key determinants, i.e. environmental innovation and marketing capability, to open up win-win opportunities to business and governments alike. Many firms frequently miss the win-win opportunities (Horbach, 2008) in dynamic environments because they have little guidance on how an environmental innovation strategy can be formulated to respond to the increasing government regulation and stakeholder pressures. Our study aims to shed some light on the marketing capabilities that managers must seek to develop in order to develop effective environmental innovation strategy for performance improvement in a dynamic environment. In addition, from methodology perspective, the moderation and mediation effects are assessed based on the analysis of both primary and secondary data, which will help extend previous work and minimize the impact of common method variance (O'Sullivan and Abela, 2007; Roth, 1992). We supplement the primary data captured through questionnaire survey with secondary data on aspects of financial performance from the Financial Analysis Made Easy (FAME) database.

The remainder of this paper is organized as follows. First, the theoretical background and research hypotheses are described. Second, the study design and methodological procedures are presented. Third, the findings of the study are presented, and managerial implications are discussed. Finally, we conclude with a brief summation, the main limitations, and suggestions for future research.

2. Theoretical background and research hypotheses

2.1. Contingency theory and dynamic capability view

CT is a major theoretical lens used to view organizations (Sousa and Voss, 2008). The CT argues that performance is a function of the congruence between an organization and its environment, strategy, and structure (Lawrence and Lorsch, 1967; Venkatraman, 1989; Venkatraman and Prescott, 1990). In its most rudimentary form, the CT holds that organizations adapt their structures and strategies in order to maintain fit with changing contextual factors, so as to attain high performance (Donaldson, 2001). Miles and Snow (1978) state that firms that have a match with their environmental context can improve their performance, but those that have a mismatch, or respond too slowly to change, court failure and poor performance. This suggests that organizations should match their structures and processes to the environment in which they operate, in order to maximize performance (Donaldson, 2001; Lawrence and Lorsch, 1967). Firms often face a multitude of growing environmental pressures and demands from different stakeholder groups that is quite challenging to manage (Delmas and Toffel, 2008; Kassinis and Vafeas, 2006). How firms respond to the increasingly dynamic market characterized by government environmental regulation and stakeholder pressures has become a critical concern on developing environmental innovation strategy. However, research that investigates whether an environmental innovation strategy mediates the relationship between environmental pressures and performance has been very limited (Eiadat et al., 2008). Using the CT as a theoretical lens, our study addresses this gap in the literature by investigating the mediating role of environmental innovation strategy.

Although the resource-based view (RBV) has been reviewed as an influential framework that explains how competitive advantage is achieved through firm resources and capabilities (Corbett and Claridge, 2002), it has not adequately explained how and why certain firms have competitive advantage in dynamic and competitive environments (Eisenhardt and Martin, 2000). Therefore, some scholars have defined the DCV, which extends the RBV to dynamic or highly volatile markets (Eisenhardt and Martin, 2000; Teece et al., 1997). The DCV suggests that a firm pursuing long term competitive advantage in increasingly demanding environments needs to develop new capabilities to identify opportunities and to respond quickly to them (Jarvenpaa and Leidner, 1998). Dynamic capability is "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments" (Teece et al., 1997, pp. 516). While recent research has demonstrated the importance of environmental innovation strategy in gaining firm competitive advantage (Ambec et al., 2013; Eiadat et al., 2008; Lanoie et al., 2011), little has been done to examine the specific organisational capabilities that can moderate the relationship between environmental pressures and environmental innovation strategy. The present study bridges this research gap by exploring the moderating role of marketing capability.

Grounding our research in the theoretical perspectives of the CT and DCV, we intend to investigate whether environmental innovation strategy mediates the relationship between environmental pressures (environmental regulation and stakeholder pressures) and performance (environmental and financial), and whether marketing capability moderates the relationship between environmental pressures and environmental innovation strategy. Furthermore, this study aims to understand the diversity of antecedent factors that affect a firm's decision to develop an environmental innovation strategy, rather than focusing solely on the government regulation factor (Eiadat et al., 2008; Henriques and Sadorsky, 1996). The conceptual model is presented in Fig. 1 and discussed in more detail below.

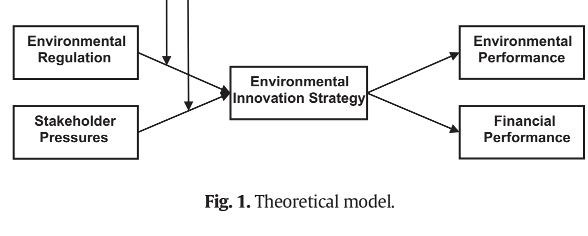

Fig. 1. Theoretical model.