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Exploitation- and exploration-based innovations: The role of knowledge in inter-firm relationships with distributors

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ABSTRACT

Learning capacity is a critical factor for a firm's innovation and competitiveness. This study explores the issue of how knowledge in inter-firm relationships with distributors influences manufacturers' exploitation- and exploration-based innovations and performance. The empirical model examines the effect of three different types of knowledge-related issues in inter-firm relationships: (i) the acquisition of substantial knowledge (about products, technology, or markets) from distributors; (ii) the learning about collaborating with each distributor as the relationship evolves; and (iii) the general firm's knowledge about managing distributors. A model of learning—innovation—performance is developed and tested in a sample of 201 firms in the food and beverages sector. The results reveal that: (i) knowledge about managing distributors promotes continuous learning from them; (ii) learning to collaborate is critical, as it favours knowledge acquisition and both types of innovations (exploitation- and exploration-based); (iii) learning from distributors weakens firms' tendency to stress one type of innovation strategy over another; and (iv) knowledge in inter-firm relationships with distributors affects performance in a completely mediated way, that is, through innovation. Theoretical and managerial implications of these findings are discussed in the conclusion of the paper.

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1. Introduction

This study's purpose is to examine how the manufacturers' knowledge in inter-firm relationships with distributors influences their exploratory and exploitative innovations and performance. Its interest lies on the fact that the last decades of research have demonstrated that innovation is an important source of competitive advantage (Adner and Kapoor, 2010; Song and Thieme, 2009). Among the different factors that may contribute to innovation success (see for instance, Song and Parry, 1997) knowledge- and learning-related issues have entered in the literature in more recent times, as knowledge is recognised as a vital resource—not only for the development of specific innovations in products and processes but also for the effective implementation of other resources in the overall innovation process (Garcia et al., 2003). In particular, learning from external relationships is important, as it expands the firm's knowledge base (Amara et al., 2008; Bierly et al., 2009), so that the firm's ability to recognise the value of new information from external relationships and then apply it to commercial ends—which constitutes a firm's so-called 'absorptive capacity' (Cohen and Levinthal, 1990)—is increasingly associated with successful innovation (e.g., Lane et al., 2006; Spithoven et al.,

2010; Zahra and George, 2002). This highlights the importance of external knowledge sourcing with regard to the development of the innovative capability of a firm (Li and Tang, 2010).

Whereas research on this topic has notably increased lately, there are issues that still require clarification. First, empirical studies have tended to focus on knowledge transfer and its internalisation by the firm (e.g., Kale et al., 2000) with relatively little consideration of the multiple types of knowledge-related issues involved in inter-firm relationships. This study addresses this gap in the literature by taking into account three types of knowledge: (i) acquisition of substantial knowledge related to product, technology, or markets; (ii) the learning about how to collaborate with specific relationships; and (iii) the firm's accumulated knowledge about the management of inter-firm relationships.

Secondly, although the literature highlights the importance of external learning in promoting innovation (Dyer and Singh, 1998), empirical investigation of the extent to which inter-firm learning influences exploration- and exploitation-based innovations is scarce and very recent (Gobbo and Olsson, 2010; Holmqvist, 2009; Bierly et al., 2009). Therefore, this study is one attempt to give an answer to Holmqvist's (2009) call "to extend the small but growing inter-organisational learning literature by empirically linking inter-organisational learning processes to the problem of exploitation and exploration" (p. 282).

Moreover, although knowledge is of the utmost importance for any firm that wishes to sustain a competitive advantage through

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product, process, and/or organisational innovation (Wernerfelt, 1984; Grant, 1996; Garcia et al., 2003), empirical work concerning the impact of inter-firm knowledge-related issues on a firm's competitiveness is scarce. For instance, Yeoh (2009) has recently stated that testing the effects of inter-organisational learning on firms' performance still remains intellectually challenging.

Finally, research on inter-firm learning is frequently concentrated in the area of strategic alliances (e.g., Kale et al., 2000), especially with regard to R&D collaborations in high-tech industries (e.g., Lane and Lubatkin, 1998), whereas traditional industries have captured a marginal degree of attention (see Spithoven et al., 2010 for one exception). The study of this phenomenon in supply-chain, vertical relationships in mature industries like the food and beverages industry is scarce, even though inter-organisational learning is an important contributor to supply chain relationships' performance (Hernandez-Espallardo et al., 2010) and the food and beverages industry is of high economic and social relevance (Pfitzer and Krishnaswamy, 2007).

Innovation activity is very important in this industry, with a strong emphasis on product innovations addressing new and differentiated demands as well as health, safety and quality concerns, with market dynamics dominating the reasons for innovations (Hauknes, 2001). Moreover, process innovations are commonplace as the result of supply chain integration initiatives directed to reduce costs and improve efficiency. The food and beverages supply chain is in the front line with respect to supply chain practices like EDI (Electronic Data Interchange), VMI (Vendor Managed Inventory), QR (Quick Replenishment), CM (Category Management), or CPFR (Collaborative Planning, Forecasting and Replenishment) (Van Donk et al., 2008). Particularly interesting is the adoption of ECR initiatives that not only encompass logistical process-oriented improvements but also collaborative frameworks between distributors and manufacturers to optimise new product developments (Corsten and Kumar, 2005; ECR Europe, 2005). Therefore, this industry is a clear example of a demand-oriented industry and, as a result, knowledge inputs regarding markets and trends are central elements in its innovations (Stewart and Martinez, 2002). As a result, the channel of distribution acquires a great relevance as an

external source of innovation for food and beverages manufacturers (Hauknes, 2001).

This sector has evolved in recent decades in the direction of a greater degree of influence of distributors (Cosgrove, 2003). In this study, we use the term 'distributors' with a wide perspective to refer to those independent firms that participate in the manufacturer's channel of distribution, which may include manufacturers' local agents, wholesalers and retailers. With respect to innovation in the industry, the distributors participate actively not only in initiatives to get operational efficiencies through the expansion of process innovations (e.g., CM) but also on the manufacturers' product innovation programs with the purpose of getting products better fitted to the distributors' strategy and final market demands (Deromedi and Körber, 2003). This type of collaboration relationship-based innovation between distributors and suppliers has therefore been recognised as a major supply chain trend (Ganesan et al., 2009) and is accompanied by a call to perform research on the role and influence of supermarkets on the R&D agenda of manufacturers (Estrada-Flores, 2008). The present research represents one effort in this direction.

The remainder of this paper is arranged as follows. The next section presents the conceptual model for the study and explains the hypothesised relationships among the constructs in the proposed model. Later, we present the empirical test of the model and the results. The paper concludes with a discussion of the main results and their managerial implications.

2. Theory development and hypotheses

The focus of this article is therefore on: (i) the manufacturers' application of knowledge obtained from distributors regarding exploitation- and exploration-based innovations, (ii) the role played by the manufacturers' expertise in managing relationships with distributors and (iii) the effects on the manufacturers' performance. The proposed conceptual model for the present study is shown in Fig. 1. The constructs within the model and the hypothesised relationships between them are discussed below.

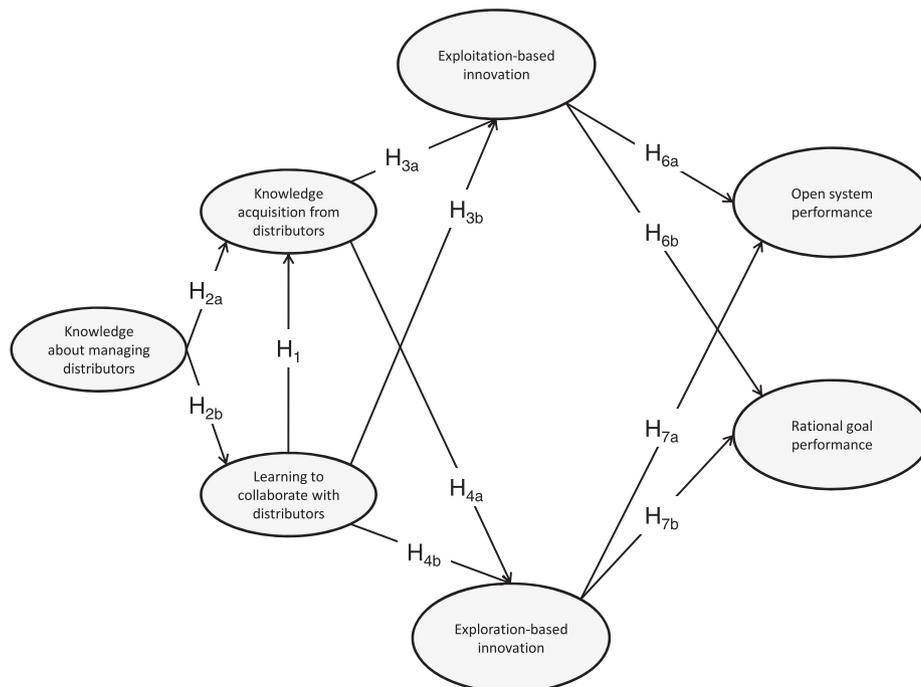


Fig. 1. A model of knowledge in inter-firm relationships with distributors, innovation, and performance.

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