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Effects of Learning from Distributors on Manufacturers' Exploitation and Exploration Innovation Strategies in Food and Beverages Industry

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1 Introduction

The relevance of innovation as source of competitive advantage is clearly justified in the literature (Adner and Kapoor, 2010; Song and Thieme, 2009). In particular, knowledge, as well as all items related to organizational learning, represents a main factor contributing to the innovation success (i.e., Song and Parry, 1997). In this sense, different authors have emphasized the importance that external sources of knowledge possess for the development and success of the innovation capability (Li and Tang, 2010; Spithoven et al., 2010).

The globalization of manufacturing companies is closely linked to the globalization of distribution activities (Mattsson, 2003). It can be said that globalization of retailers drives globalization of manufacturing companies. So the latter will be influenced by the supply conditions of the target markets, the possibilities to supply new markets, or the possible threat to be replaced by alternative suppliers (Ruiz, 2000, Etemad, 2004).

At the same time, supply chains have progressively become more international and complex (Monczka and Trent, 2005), representing principal sources of competitive advantage in terms of availability of technological and organizational competencies and access to minor operative costs (Pagano, 2009). The international supply tends increasingly to be considered as a strategic tool chasing to take advantage of the previous advantages. Consequently, organizations should promote this critical organizational relational capability (Kotabe and Murray, 2004).

This is specially emphasized in the **food and beverages industry**, characterized by a strong emphasis in product and process innovations. It represents a clear example of demand-orientated industry, so knowledge inputs about trends and markets constitute central elements of its innovations (Stewart and Martinez, 2002). As result, the distribution channel acquires a great relevance as external source of innovation for the manufacturers of the food and beverages industry (Hauknes, 2001). This type of collaboration relation based on innovation between distributors and manufacturers, has been recognized in the literature as an important trend of the supply chains (Ganesan et al., 2009).

This study's **purposes** are: (a) to conceptualize and to test the learning capability from the distributors (LCD) as a second order construct, constituted by three dimensions (the acquisition of knowledge from distributors, the learning of the collaboration with distributors and the knowledge derived from managing with distributors); (2) to analyze the relations established between the LCD and the exploitation and exploration innovation strategies; and (3) to study the effect of these strategies on the organizational performance.

2 Literature review and hypothesis

Learning in the context of external relationships can be a critical source of innovation and competitive advantage because it expands a firm's knowledge base by providing "*additional inputs into the learning process which create new opportunities to have access to knowledge facilitating the development of innovation*" (Amara et al., 2008; p. 453), therefore improving the probability of earning economic rents (Bierli et al., 2009). The firm's ability to recognize the value of new information from external relationships, to assimilate it, and apply it to commercial ends, i.e., the firm's absorptive capacity (Cohen and Levinthal, 1990), has therefore been increasingly associated to innovation and its outcomes (Zahra and George, 2002; Lane et al., 2006).

Under the assumption that critical organizational resources, knowledge included, may extend beyond the boundaries of the firm (Dyer and Singh, 1998), the ability of manufacturing firms to learn from interorganizational relationships, and in particular from distributors, is considered a key dynamic capability with remarkable effects on innovation and results (Ellonen et al., 2009).

In the specific relationship that manufacturers establish with distributors, in recent years retailers have achieved a higher degree of influence on manufacturing firms in the food and beverages sector (Cosgrove, 2003). With the increase in size achieved by retailers they have moved toward the establishment of direct relationships with manufacturers, not only to achieve operational efficiencies but also to collaborate with producers so that their offer is better suited to the retailers' final market demands, therefore affecting the manufacturers' innovation activities (Deromedi and Körcher, 2003). As a result, the distribution channel has gained relevance as an external source of innovation for food and beverages manufacturers (Hauknes, 2001).

A growing number of organizational learning studies have analysed interorganizational learning processes under the assumption that interorganizational relationships are unique learning entities (Holmqvist, 2009). A review of the literature suggests that three interrelated constructs should appear in any proposed model with regard to knowledge in interfirm relationships with distributors (Kale et al., 2000; Hibbert and Huxham, 2005): (i) knowledge acquisition from distributors; (ii) learning to collaborate with distributors; and (iii) knowledge about managing distributors.

Consequently this research applies a multidimensional approach related to the description of manufacturers' learning in relationships with distributors, following the Kale et al. (2000) proposal. The three considered dimensions are: knowledge acquisition from distributors, learning to collaborate with distributors and relational capability with distributors.

Knowledge acquisition from distributors is a private benefit obtained by the manufacturer as a consequence of its relationships with distributors (e.g. Khanna et al., 1998) that "*involves accessing and/or internalizing some critical information, capability, or skills from the partner* (Kale et al., 2000; p. 219)."

A second type of learning, barely studied by the literature, is obtained by firms as they develop close and collaborative relationships with distributors as far as they learn "*about the partners' intended and emergent goals, how to redefine joint tasks over time, and how to manage the interfirm interface* (Kale et al., 2000; p. 220)." This ***learning to collaborate with distributors*** is referred to the firm's adaptation of the processes and structures of collaboration as the relationship evolves (Ring and Van de Ven, 1994; Jap, 1999).

Finally, an increasing stream of research in alliances has been devoted to studying the firms' alliance capability (e.g., Draulans et al., 2003; Kale et al., 2002). Extension of the concept to any type of interfirm relationship, including that with distributors, describes the ***relational capability with distributors*** as a company's mechanisms and routines that are implemented to accumulate, integrate, and diffuse relevant organizational knowledge about distributors' management (Kale et al., 2002).

The fact that knowledge acquisition from distributors, learning to collaborate with distributors and relational capacity with distributors are distinct but intertwined dimensions of a firm's general capacity to learn in relationships with distributors lead us to consider a unique concept and we name it as **Learning Capability from Distributors** (LCD). Thus w state that:

H1. *LCD is a multidimensional construct consisted of three dimensions:* knowledge acquisition from distributors, learning to collaborate with distributors and relational capability with distributors

We consider LCD an specific application to interfirm relationships with distributors in the channel of a more general concept of absorptive capacities and, as such, can be considered a firm's dynamic capability as it is embedded in organizational processes and is directed toward enabling organizational change and evolution by reconfiguring its resource base to achieve a competitive advantage (Zahra and George, 2002). LCD as a dynamic capability influences the firm's ability to build other organizational capabilities that can be a foundation on which to achieve a competitive advantage that yields superior performance (Teece et al., 1997). Among them, literature highlights the

importance of innovation and strategic flexibility (Barney, 1991) either by exploration or exploitation (Garcia et al., 2003; He and Wong, 2004). Therefore, these research hypothesis state that:

H2. The manufacturers' learning capability from distributors has a positive effect on the manufacturers' exploitation-based innovation strategy

H3. The manufacturers' learning capability from distributors has a positive effect on the manufacturers' exploration-based innovation strategy

Organizational performance is defined as the firm's degree of attainment of its organizational goals. Because goals can be heterogeneous and conflicting, the firm must try to get a reasonable level of achievement of every goal without hampering the accomplishment of the others (Quinn and Rohrbaugh, 1983). In this study, we use Quinn and Rohrbaugh's (1983) criteria of organizational effectiveness to consider two separate dimensions of performance: the open system performance and the rational goal performance.

Innovation capability ranks among the top determinants of firms' performance, and many empirical studies have found this relationship to be significant (e.g., Calantone et al., 2002).

Successful innovation demands that a firm must exploit its existing competencies while trying to avoid their dysfunctional rigidity effects by renewing and replacing them with entirely new ones (Leonard-Barton, 1992). As argued by Levinthal and March (1993, p. 105), "the basic problem confronting an organization is to engage in sufficient exploitation to ensure its current viability and, at the same time, to devote enough energy to exploration to ensure its future viability". Each strategy is associated with different results with regard to the expected value, variability, opportunity and distribution, inside and outside the firm (March, 1991). Exploration results are more variable and remote; exploitation results are more certain and close (He and Wong, 2004). However it is very interesting to know the consequences derived from strategic decision (exploration vs. exploitation) in terms of organizational performance. We propose:

H4. Exploitation-based innovations have a positive effect on the open system performance

H5. Exploitation-based innovations have a positive effect on the rational goals performance

H6. Exploration-based innovations have a positive effect on the open system performance

H7. Exploration-based innovations have a positive effect on the rational goals performance

3 Methods and results

The conceptual developed model of learning-innovation-performance was tested in a Spanish sample of 201 firms in the food and beverages sector. A questionnaire was built according to multi-item scales already used in the marketing and management literature. Internal consistency and validity of scales of different constructs were analyzed. The measurement model provided a reasonable fit to the data.

Table 1 presents the results obtained for this second order specification that confirm that the three dimensions can be modelled by the data, and that they reflect a higher- order construct, confirming H1.

Table 1.
Second-order confirmatory factor analysis of learning capacity with distributors

Construct	Indicator	First-order		Second-order	
		Standardarized loading	t-value	Standardarized loading	t-value
Knowledge acquisition from distributors	KA2	0,86	-[a]	0,85	12,03
	KA3	0,85	15,78		
	KA4	0,92	18,09		
	KA5	0,74	12,45		
Learning to collaborate with distributors	LC1	0,88	-[a]	0,97	14,46
	LC3	0,86	16,86		
	LC4	0,88	17,39		
	LC5	0,82	15,24		
Relational capability with distributors	RC1	0,76	-[a]	0,92	11,19
	RC2	0,87	12,87		
	RC3	0,72	10,40		
	RC5	0,77	11,22		

Fit statistics for measurement model of 12 indicators for three constructs: $\chi2(51)= 173.46$; GFI= 0.89; SRMR= 0.044; CFI= 0.97; TLI (NNFI)= 0.97; a Fixed parameter.

Conventional maximum likelihood estimation techniques were used to test the model (Jöreskog and Sörbom, 1996). The fit of the model is satisfactory. Results are shown in table 2.

H2 and H3 are confirmed since we have found that learning capability from distributors exerts a positive and significant influence on both, the implementation of exploitation-based and exploration-based innovations.

Exploitation- and exploration-based innovation strategies exert imbalanced effects on performance. Exploration-based innovation exerts a positive and significant effect both, on the open system performance and the rational goals performance. Exploitation-based innovation exerts a positive effect on performance only in the case of the open system performance. The results confirm H4, H6 and H7.

Table 2.
Construct structural model

Linkages in the model	Standardized parameter estimates		
	Parameter	Estimate	t-value
H2. LCD → Exploitation	γ_{41}	0,48	5,91***
H3. LCD → Exploration	γ_{51}	0,45	5,88***
H4. Exploitation → Open system performance	β_{64}	0.38	4.66***
H5. Exploitation → Rational goals performance	B_{74}	-0.11	-1,48
H6. Exploration → Open system performance	β_{65}	0.49	5,86***
H7. Exploration → Rational goals performance	B_{75}	0.38	5,09***

*** $p<0.01$. Fit statistics: $\chi^2_{(288)}= 611.82$; GFI=0.82; RMSEA=0.072; SRMR=0.064; CFI=0.97; TLI (NNFI)=0.97.

4 Conclusions

We submit that this paper contributes to the field of innovation management and firm capabilities by developing and testing a more comprehensive model of knowledge within relationships with distributors configuring innovation strategy based on the exploitation-exploration framework. This model provides predictions of managerial behaviour at the innovation decisions including the promotion of external learning capability from distributors and the level of innovation strategy to adopt (exploration vs. exploitation), and predicts the outcomes of these strategies on the own firm's goals.

Our results confirm that the external knowledge coming from vertical relationships is relevant for management as advocated by Grant and Baden-Fuller (2004). With this result, the logic resources-innovation-performance is supported and better understood by explaining how firms prioritize their resources (for exploitation vs.

exploration) according to their learning capacity in relating to distributors. According to the results obtained in this research, managers are advised to develop the learning structures and processes considered in our three dimensions construct of learning capability from distributors (knowledge acquisition, learning to collaborate, and relational capability) as an effective mechanism to leverage market oriented product innovations (Kok and Biemans, 2009).

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