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Absorptive capacity, innovation and cultural barriers: A conditional mediation model☆

Antonio L. Leal-Rodríguez [a,*], José A. Ariza-Montes [b], José L. Roldán [c], Antonio G. Leal-Millán [c]

[a] Department of Business Management, Universidad Loyola Andalucía, C/Energía Solar, 1, 41014 Sevilla, Spain
[b] Department of Business Management, Universidad Loyola Andalucía, C/Escritor Castilla Aguayo, 4, 14004 Córdoba, Spain
[c] Department of Business Management and Marketing, Universidad de Sevilla, Av. Ramón y Cajal, 1, 41018 Sevilla, Spain

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ABSTRACT

The construct of absorptive capacity has two dimensions: potential absorptive capacity (PACAP) and realized absorptive capacity (RACAP). This study addresses these two dimensions separately, and analyzes their influence on innovation outcomes (IO) in organizations. The study also examines the mediating role of RACAP in the relationship between PACAP and IO. Furthermore, the paper contains a discussion on the moderating role of cultural barriers (CB) in decreasing the PACAP–RACAP link. Consequently, this study builds and tests a conditional process model. Data comes from a sample of 110 firms from the Spanish automotive components manufacturing sector. Results from variance-based structural equation modeling and the PROCESS tool show that RACAP fully mediates the influence of PACAP on IO, and that CB negatively conditions this indirect effect. This study provides evidence that when CB attains medium-to-high values, this indirect influence is not different from zero.

1. Introduction

The automotive components manufacturing sector (ACMS) is currently one of the fastest growing sectors in Spain. Knowledge intensity, innovation, and the orientation of firms' products toward their customers—principally the largest automobile manufacturers (i.e., Citroen, Renault, Peugeot, etc.)—are factors that characterize the firms in this sector. These firms provide components, and highly custom products and services to large automakers. On the one hand, they act as external knowledge sources for their client firms, and, on the other hand, increasingly, they are becoming independent innovation creators. Most firms in the ACMS sector are SMEs. To be innovative, specialist knowledge and cumulative learning are necessary. These elements allow ACMS firms to differentiate their outputs from their competitors.

New products and processes demand new competencies or at least a new combination of competencies. These new skills and capabilities are requirements for creating new products or launching new services, and are likely results of the acquisition, assimilation, and exploitation of new knowledge. This idea is what Cohen and Levinthal (1990) refer to as absorptive capacity (ACAP). These authors state that ACAP is a result of individual skills, prior knowledge, firm-specific competencies (internal capabilities), and access to knowledge sources outside the firm (external linkages). The stock and flow of knowledge, as well as knowledge absorption capacity, determine the development of innovative outputs. Therefore, this work considers that a firm's absorptive capacity (in terms of both internal capabilities and external linkages) is a critical issue for innovation (Kocha & Strotmanna, 2008).

This work extends the literature by empirically examining ACMS firms' innovation drivers. With this aim in mind, the study uses firm-level data from a sample of 110 Spanish firms, to analyze the role of a firm's absorptive capacity (i.e., its ability to identify, assimilate, and exploit knowledge) in spurring innovation, and looks into the moderating role of cultural barriers. The literature regards absorptive capacity (ACAP) as the ability of a firm to link external knowledge stock and internal capabilities in order to develop new and improved products and processes (Palmberg, 2004). Most of the relevant theories on innovation outcomes (IO) agree that absorptive capacity is an important determinant of innovation at the firm level (Kocha & Strotmanna, 2008).

Along with absorptive capacity, this study assesses the role of organizational culture as a key factor for innovation success (De Long & Fahey, 2000). The knowledge-based view of the firm holds that the essence of competitiveness and performance resides in the creation, organization, and use of knowledge assets. These authors support the widespread view that organizational culture is the principal barrier to creating and leveraging knowledge assets. Thus, managers need a framework to facilitate the influence of cultural aspects on the firm's innovation outcomes.

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* Corresponding author. Tel. +34 955 641 600x498.
E-mail addresses: alleal@uloyola.es (A.L. Leal-Rodríguez), ariza@uloyola.es (J.A. Ariza-Montes), jlroldan@us.es (J.L. Roldán), aleal@us.es (A.G. Leal-Millán).

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This paper focuses on the link between firms' absorptive capacity and their innovation activities, and simultaneously assesses the moderating role of cultural barriers on the ACAP–IO link. This focus provides the main theoretical and empirical contribution of this work.

2. Theory and hypotheses

2.1. Linking potential absorptive capacity (PACAP) with innovation outcomes (IO)

Damanpour (1991) defines innovation as the creation and development of new products, services, or processes. Thereby, the association of innovation capacity with novelty contributes to creating or enhancing value for the firm. According to Fiol (1996), the prior accumulation of knowledge fosters the firm's potential to create or produce innovation outcomes. The process of applying new knowledge in order to obtain new products, services or processes usually generates innovation outcomes. These outputs ought to suppose a novelty or enhancement of existing ones.

Cohen and Levinthal (1990) coin the term absorptive capacity (ACAP) to define the firm's ability to value, assimilate, and apply new knowledge. Although extensive literature concerning ACAP exists, this topic only arouses significant interest in the academic community in light of Zahra and George's (2002) reconceptualization. The roots of this reconceptualization lie in the distinction between potential absorptive capacity (PACAP) and realized absorptive capacity (RACAP).

The present paper focuses on Zahra and George's (2002) view, which suggests that ACAP encompasses four distinct but complementary capabilities: acquisition, assimilation, transformation, and exploitation. According to Barney (1991), the conjunction of these different capabilities leads organizations to achieve superior performance, which frequently results in competitive advantage.

In accordance with this theory, PACAP and RACAP encompass different capabilities. PACAP involves the acquisition and assimilation capabilities. This capacity makes the firm open to the acquisition and assimilation of externally generated knowledge (Lane & Lubatkin, 1998). PACAP captures a firm's capacity to evaluate and acquire external knowledge. Nevertheless, this capacity does not always lead to knowledge exploitation. Conversely, RACAP deals with the capabilities of transforming and exploiting. PACAP and RACAP are essentially distinct concepts, and consequently may draw on different structures, objectives, and strategies (Cepeda-Carrión, Cegarra-Navarro, & Jimenez-Jimenez, 2012). PACAP requires the existence of an open-to-change culture (creativity and flexibility), whereas RACAP demands a culture with the characteristics of high stability, order, and control.

Several studies posit that the ability to exploit external knowledge effectively constitutes a critical factor for companies with an interest in achieving innovation outcomes (Cohen & Levinthal, 1990). A company's absorptive capacity acts as the enabler that allows the company to turn knowledge into new products, services, or processes to support innovation (Cepeda-Carrión, Cegarra-Navarro, & Jimenez-Jimenez, 2012).

Fiol (1996) associates the firm's potential to achieve innovation outcomes with knowledge that companies gather prior to the outcome. The emergence of knowledge management (KM) contributes to increasing and intensifying the reciprocity between knowledge and innovation. KM theory leads to an understanding that firms' efforts and investment in their knowledge repositories and in obtaining knowledgeable workers result in innovativeness enhancement.

H1. A positive relationship exists between potential absorptive capacity (PACAP) and innovation outcomes (IO).

2.2. The mediating role of RACAP in the relationship between PACAP and IO

Knowledge exploitation may be impossible for organizations if they do not previously acquire and assimilate this knowledge. Likewise, firms may acquire and assimilate external knowledge, but if they lack the capability to transform and exploit this knowledge, they will be unable to create value. In line with this idea, PACAP and RACAP may have separate goals and roles. Nevertheless, their effect is complementary rather than independent from one another. Both PACAP and RACAP engage with and contribute to the improvement of firm performance.

If PACAP constitutes the knowledge acquisition and assimilation process, and RACAP deals with the process for exploiting and applying this valuable knowledge, storing this new knowledge within a repository is therefore highly advisable. The main purpose of this repository is to guarantee knowledge permanence within the organization and facilitate the accessibility for organizational members who exploit this knowledge so that they do not miss this valuable element (Cepeda-Carrión, Cegarra-Navarro, & Jimenez-Jimenez, 2012).

Zahra and George (2002) view the generation of innovation outcomes by a firm as a form of obtaining a type of competitive advantage. As these authors posit, despite the importance of PACAP, RACAP is the primary source of performance improvements. Thus, the certain works in the literature sustain that innovation outcomes are mainly the result of the existence of higher RACAP in the firm. The complementarity between RACAP and PACAP, however, is a signal that obviating the influence of PACAP on IO would be unwise.

Thus, the improvement and development of companies' absorptive capacity rely on both their efficient knowledge acquisition and assimilation (PACAP), and their ability to integrate this knowledge in their knowledge base for further exploitation and application (RACAP).

H2. Realized absorptive capacity (RACAP) positively mediates the relationship between PACAP and IO.

2.3. The moderating effect of cultural barriers (CB) in the PACAP–RACAP and RACAP–IO relationships

Schein (1985) defines organizational culture as the shared values, beliefs, and practices of the organizational members. This culture not only reflects the organizations' outwardly visible traits such as their mission and corporate values, but also reflects the ways in which people within the organization act, interact with each other, and their expectations of each other (McDermott & O'Dell, 2001). Although organizational culture is essential for nurturing ideas and building a strong foundation for the firm (Senge, 1990), innovativeness often requires the existence and tolerance of changes in corporate culture (Bureš, 2003).

The literature reveals the existence of strong evidence of the positive relationship of organizational culture with the firm's innovativeness (Deshpande, Farley, & Webster, 1993; Hernández-Mogollón, Cepeda-Carrión, Cegarra-Navarro, & Leal-Millan, 2010). A firm that really intends to be innovative must have an organizational culture that strongly allows and supports innovation (Santos-Vijande & Álvarez-González, 2007). The main premise is that culture plays a key role in enabling firms to achieve speed and flexibility in the innovation process.

Very often, firms encounter several barriers to innovation. These barriers can be both internal and external to the firm. Assink (2006) assesses the existence of a series of barriers (inhibitors) that are disruptive to innovation capability. Some of the inhibitors that Assink (2006) cites reside in the culture of the firm. This author states that a firm's efforts to prevent risks, the existence of a strong hierarchy and high levels of bureaucracy, the mismanagement of the innovation process, misunderstandings between the staff and the senior managers, and the existence of a top-down approach that underestimates employees are all cultural barriers that hinder the innovative process within a firm and, hence, its innovation outcomes. Singh and Kant (2007) also identify several barriers relating to KM. Specifically, they posit that the lack of organizational culture constitutes a fundamental barrier to an effective and successful KM implementation in an organization. They also consider the lack of top management commitment as a key barrier to becoming a knowledge-