

# Assessing the impact of organizational learning capability on product innovation performance: An empirical test

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## Abstract

This paper examines how organizational learning capability affects product innovation performance. We define organizational learning capability through five dimensions or mechanisms: experimentation, risk taking, interaction with the external environment, dialogue and participative decision making. The impact of these mechanisms on product innovation performance is also analyzed. We use structural equations modeling to test our research hypotheses on a data set from the ceramic tile industry. Results support our conceptual model and underline the importance that learning has for innovation performance. Implications of the findings for both academics and practitioners are examined.

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## 1. Introduction

Innovation is fast becoming a crucial factor in company performance and survival as a result of the evolution of the competitive environment (Wheelwright and Clark, 1992; Bueno and Ordoñez, 2004). In this vein, Balachandra and Friar (1997) consider that the successful introduction of new products is the lifeblood of most organizations. The importance of product innovation for good long-term company results is now widely recognized and has been extensively reported in the literature (Capon et al., 1992; Lemon and Sahota, 2004; Montalvo, 2006).

Innovation consists of successfully implementing creative ideas within an organization (Myers and Marquis, 1969; Amabile et al., 1996), and is therefore closely related to organizational learning. Innovation is conceived as an individual and collective learning process that aims to find new ways of solving problems. As a result, innovation seems to depend on the company's capability to learn

through which new knowledge is developed, distributed and used.

Organizational learning is the process by which organizations learn. Learning is any change in the organization's models that maintains or improves performance (Cyert and March, 1963; Hedberg, 1981; Dibella et al., 1996). Based on previous definitions of capability (Zander and Kogut, 1995; Teece et al., 1997), we understand organizational learning capability (OLC) as a bundle of tangible and intangible resources or skills the firm uses to achieve new forms of competitive advantage. These skills enable the process of organizational learning. OLC is usually related to the prescriptive literature on organizational learning (Tsang, 1997) which analyses the contextual variables that facilitate learning (Nevis et al., 1995; Hult and Ferrell, 1997; Jérez-Gómez et al., 2005). This literature has revealed that learning can be promoted and guided when certain conditions or characteristics are in place. The capacity to learn has been considered a key index of an organization's effectiveness and potential to innovate (Jérez-Gómez et al., 2005).

Prior research suggests that organizational learning affects product innovation performance. McKee (1992) understands product innovation as an organizational

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learning process and claims that directing the organization towards learning fosters innovation effectiveness and efficiency. Wheelwright and Clark (1992) suggest that learning plays a determinant role in new product development projects because it allows new products to be adapted to changing environmental factors, such as customer demand uncertainty, technological developments or competitive turbulence. Recently, Hult et al. (2004) pointed out that if a firm is to be innovative, management must devise organizational features that embody a clear learning orientation. Specifically, some cultural factors such as decentralization in decision making, error tolerance or social relations have been shown to affect knowledge and innovation outcomes through organizational learning (Chang and Harrington, 2003; Lemon and Sahota, 2004). However, this link needs a wider and more comprehensive analysis, including the main characteristics that foster organizational learning (Argote et al., 2003; Bueno and Ordoñez, 2004; Koc and Ceylan, 2006).

Calantone et al. (2002) defined a firm's learning orientation as the organizational activities of creating and using knowledge to enhance competitive advantage. Their study underscored the importance of learning orientation and linked it with innovation. However, Calantone et al. (2002) emphasized that more empirical work in this direction was imperative.

Recently, Chiva et al. (2007) carried out an integrative analysis of the literature on OLC and proposed five essential facilitating factors: experimentation, risk taking, interaction with the external environment, dialogue and participative decision making. We propose that OLC could represent the foundations of a firm's learning orientation.

The aim of this paper is to assess the contribution OLC makes to product innovation performance. To this end, we carried out a survey that examined OLC and product innovation performance in Italian and Spanish ceramic tile producing firms. We used structural equations modeling to test research hypotheses.

This paper makes three contributions to the literature. Firstly, at the firm level, we test a conceptualization of OLC proposed originally by Chiva et al. (2007) at the individual level. Secondly, we test a conceptualization of product innovation performance recently proposed by Alegre et al. (2006) in a different industrial setting. Thirdly, we explain product innovation performance as a function of OLC, the organizational foundations of a firm's learning orientation.

By examining innovation performance rather than overall firm performance, we avoid confounding the effect of other firm actions that do not belong to the OLC and innovation domain, or which may contribute differentially to overall performance (Ray et al., 2004). However, it should be noted that innovation performance is closely linked to overall performance (Wheelwright and Clark, 1992; Brockman and Morgan, 2003; West and Iansiti, 2003). Therefore, it should be reasonable to assume that innovation performance is positively related to competitive advantage.

## 2. Theoretical framework and hypotheses

### 2.1. OLC

The OLC concept (Dibella et al., 1996; Goh and Richards, 1997; Hult and Ferrell, 1997; Yeung et al., 1999; Jérez-Gómez et al., 2005) stresses the importance that facilitators have for organizational learning. These facilitators have traditionally been outlined by both the learning organization and the organizational learning literature.

The learning organization or prescriptive literature mainly focuses on the development of normative models for the creation of a learning organization. This literature (Ulrich et al., 1993; Goh and Richards, 1997; Pedler et al., 1997) describes a set of actions that ensures learning capability: effective generation of ideas by implementing a set of practices such as experimentation, continuous improvement, teamwork and group problem-solving, observing what others do, or participative decision making.

Although most of the OLC measurement proposals and analyses of their dimensions have mainly focused on the learning organization research, the organizational learning literature has also studied the organizational learning facilitating factors. Chiva (2004) analyzes both literatures in order to determine the facilitating factors of organizational learning. Based on this comprehensive analysis, Chiva et al. (2007) developed an OLC measurement instrument that understands OLC as a multidimensional concept, the dimensions of which are: experimentation, risk taking, interaction with the external environment, dialogue and participative decision making. On the one hand, these five dimensions are essential enablers of the organizational learning process. On the other hand, they represent the OLC of a particular firm.

This conceptualization of OLC also takes into account that organizational learning can be either internal or external. According to Bierly and Chakrabarti (1996), firms should achieve an adequate balance between internal and external learning that best fits their resource configuration and strategic objectives. Internal learning occurs when members of the organization generate and distribute new knowledge inside the firm; it depends mainly on organizational culture factors such as participative decision making (Hurley and Hult, 1998) or management style (Lemon and Sahota, 2004). External learning occurs when new knowledge comes from outside the firm and is then transferred throughout the organization; it is chiefly a result of the firm's absorptive capacity, its ability to identify, assimilate and exploit knowledge from the environment (Cohen and Levinthal, 1990; Lane et al., 2006).

This OLC dimensionality is explained through the importance of interactions: interactions between actors (individuals and groups) and artifacts (things, values, processes, etc.), and interactions among actors. The former includes experimentation and risk taking and the latter refers to interaction with the external environment, dialogue and participative decision making.

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