

## Organizational learning capability: a proposal of measurement

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### Abstract

This paper develops a measurement scale for organizational learning capability, supported by the results of a validation study covering a sample of 111 Spanish firms from the chemical industry. From a strategic viewpoint, the measurement scale identifies the elements that form learning capability, highlighting its complex and multidimensional nature. The evidence that the results provide regarding the scale's validity suggests that we may use this tool in future research work requiring a measurement of learning capability. Likewise, the scale provides information that could be of use to those managers wishing to improve learning capability in their firms.

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### 1. Organizational learning capability: a proposal of measurement

The analysis of organizational learning has become an increasingly important study area over recent years. Various works have dealt with the analysis of this construct from differing viewpoints. There are studies that focus on this construct using a psychological approach (Cyert and March, 1963; Daft and Weick, 1984), a sociological approach (Nelson and Winter, 1982; Levitt and March, 1988), or from the point of view of Organizational Theory (Cangelosi and Dill, 1965; Senge, 1990; Huber, 1991). More recently, learning has been considered, from a strategic perspective, as a source of heterogeneity among organizations, as well as a basis for a possible competitive advantage (Grant, 1996; Lei et al., 1996, 1999). From this latter approach arises the concept of learning organization, which implies a change in the traditional way of dealing with business management.

Although research into organizational learning has provided some relevant insights, there are still certain aspects that have not been sufficiently analyzed. On one hand, the widely accepted idea that organizational learning is an essential element to successfully compete in a global mar-

ketplace (Prahalad and Hamel, 1990) comes up against the lack of empirical research that has been carried out to this respect (Garvin, 1993). Although various case studies have taken an in-depth look at the inherent complexity of the organizational learning construct (e.g., Leonard-Barton, 1992), measuring and empirically testing an organizational learning scale may contribute towards the field of study, making generalizable conclusions more easily drawn. Thus, we need to take into account the multidimensional nature of the construct, recognized in various studies (e.g., Senge, 1990; Lei et al., 1999).

Our objective is to contribute towards the level of knowledge regarding organizational learning, developing a measurement tool that is adapted to its multidimensional nature. We test its validity and reliability in a sample of 111 Spanish manufacturing firms from the chemical industry. Designing this measurement scale may be relevant for various reasons. First, to facilitate work that allows the antecedents and the learning effects on organizations to be evaluated. Second, to identify the different dimensions from which it is formed and hence the underlying relationships. This would allow the evaluation of tools that are adequate for the provision of organizational learning.

We first establish the concept of organizational learning, concentrating on its complex nature. We then develop a measurement scale according to this complex nature, paying particular attention to checking its validity. Finally, we set out the main conclusions and implications of the study.

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## 2. Organizational learning: establishing the concept

In the literature on organizational learning, we come across a constant evocation of the psychological concept of individual learning. Its influence, direct or indirect, on the way in which organizations learn justifies the fact that many theories on organizational learning are based on observations of individual learning and of the organization–individual analogy (Kim, 1993). Although organizational learning has its roots in individual learning (Shrivastava, 1983; Senge, 1990), the process that leads to its development is not as simple as just adding together the individual learning of the organization’s different members (Argyris and Schön, 1978; Hedberg, 1981). Organizational learning is seen as a dynamic process based on knowledge, which implies moving among the different levels of action, going from the individual to the group level, and then to the organizational level and back again (Huber, 1991; Crossan et al., 1999). This process stems from the knowledge acquisition of the individuals and progresses with the exchange and integration of this knowledge until a corpus of collective knowledge is created (Hedberg, 1981), embedded in the organizational processes and culture. This collective knowledge, which is stored in the so-called organizational memory (Walsh and Ungson, 1991), has an impact on the type of knowledge acquired and the way in which it is interpreted and shared. What an individual learns in an organization greatly depends on what is already known by the other members of the organization—in other words, on the common knowledge base (Simon, 1991). Fig. 1 reflects the continuity and dynamism of the learning process.

Analyzing learning as a process highlights three main aspects. First, knowledge and, more specifically, its acquisition or creation, along with its dissemination and integration within the organization, become a key strategic resource (Grant, 1996; Zander and Kogut, 1995; Teece et al., 1997). This gives rise to the idea that organizational learning has a collective nature that goes beyond the individual learning of persons (Shrivastava, 1983). Second, this creation and dissemination of new knowledge imply the existence of constant internal changes that can occur at a cognitive or behavioral

level (Fiol and Lyles, 1985). Third, these internal changes lead to a process of constant improvement that allows the firm’s actions to be maintained or bettered (Fiol and Lyles, 1985; Garvin, 1993; Slocum et al., 1994), or even to achieve a competitive advantage based on firms’ different learning capabilities (Mahoney, 1995; Brenneman et al., 1998).

The aforementioned aspects enable us to conceptualize organizational learning as the capability of an organization to process knowledge—in other words, to create, acquire, transfer, and integrate knowledge, and to modify its behavior to reflect the new cognitive situation, with a view to improving its performance.

The effective development of organizational learning capability requires four conditions. First, company management must provide decisive backing to organizational learning (Stata, 1989; Garvin, 1993). Management should spearhead the process, making clear its support and involving all the personnel (Williams, 2001). Second, it requires the existence of a collective conscience that allows the firm to be seen as a system in which each element must make its own contribution so as to obtain a satisfactory result (DeGeus, 1988; Senge, 1990). If a shared vision is lacking, the individual actions do not contribute towards organizational learning (Kim, 1993).

Third, it needs the development of organizational knowledge, based on the transfer and integration of knowledge acquired individually (Nonaka and Takeuchi, 1995). Creating a corpus of organizational knowledge, steeped in the routines and processes of the work itself, is essential for guaranteeing the organization’s continuous learning, irrespective of the individuals that form part of it (Daft and Weick, 1984). Lastly, simply adapting to the changes within the established framework does not suffice for learning capability to be a source of heterogeneity among firms inasmuch as adaptation is an inadequate response in the current competitive environment (Hedberg, 1981; McGill and Slocum, 1993). The firm must go beyond an adaptive learning and concentrate on the learning level needed to question the organizational system in force and, if necessary, make changes in search of more innovative and flexible alternatives—generative learning (Senge, 1990; McGill et al., 1992)—a learning that requires an open mentality towards new ideas and a great deal of experimentation (Leonard-Barton, 1992).

## 3. The multidimensionality of organizational learning capability

Authors who point out the necessity of describing organizational learning fully and precisely maintain that it is essential to develop reliable, valid methods of measurement (Easterby-Smith et al., 2000). One of the traditional ways of measuring learning has been to use so-called learning curves (Yelle, 1979; Lieberman, 1987) and experience curves (Boston Consulting Group, 1968). However,

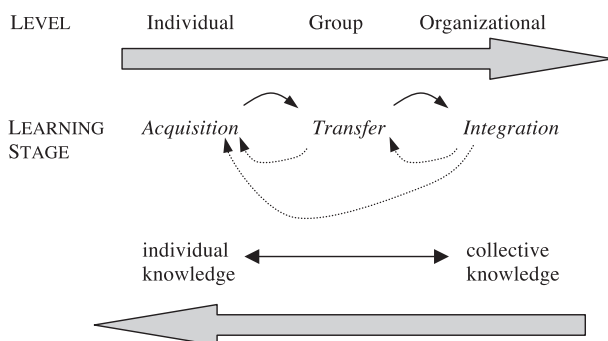


Fig. 1. Organizational learning process.

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