Measuring Organizational Learning as a Multidimensional Construct

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INTRODUCTION

The traditional way of measuring learning as a result has been through the so-called learning and experience curves. The learning curves, developed within the production framework (Levitt & March, 1988), relate the manufacturing cost of a product to the accumulated experience in its production. This establishes that its cost decreases as the number of units made increases. At first, although this relationship was limited to the direct labour cost, it later extends to the total production cost.

In the 70s, the Boston Consulting Group applied this idea to the manufacturing sectors with experience curves. These curves expand the learning effect to activities other than those typical of production (Albernathy & Wayne, 1974). They describe the influence that experience acquired through the repetition of a specific activity has on the variable cost and/or price.

Another form of learning evaluation is the half-life curves that measure the time taken in obtaining an improvement of 50% in a determined measurement performance: The greater slope curves indicate a faster learning (Garvin, 1993).

These systems of evaluation are, nevertheless, incomplete for a learning organization. The cognitive level, changes in conduct, and its influence on performance improvement must be taken into account in assessing a company's learning. Surveys, questionnaires, and interviews are, in this case, more useful (Garvin, 1993).

The research has, however, advanced with great slowness due to two matters: first, as a result of the complexity and multidimensional nature of the object of study; second, the absence of a solid common starting-point, caused by the theoretical disagreement that exists concerning the very definition of the concept and its dimensions. In this line, organization learning (OL), as multidimensional construct, has been analyzed through the dimensions related to the OL capability, according to a series of phases that define a sequential time process, or by means of a knowledge-creation process.

BACKGROUND

In spite of the extensive existing literature on OL, there are very few attempts to operate this construct (Chaston, Badger, & Sadler-Smith, 1999), especially case studies that try to induce theory from practice (Easterby-Smith & Araujo, 1999).

OL, as a result, has been treated as a uni-dimensional construct (Levitt & March, 1988), whereas its analysis as a lasting process connected with knowledge acquisition and performance improvement has allowed us to go further into its complex and multidimensional character.

Easterby-Smith, Crossan, and Nicolini (2000, p. 789) consider the question of the OL measurement to be lacking in methodological and epistemological debate. In most cases, a contingent vision prevails in which the methods used are appropriate for different kinds of research problems. In general, the studies in this field reveal three perspectives:

a. A macro/positivist perspective that uses quantitative methods—its unit of analysis being the organization or its significant subunits.
b. A micro/interpretative perspective, where the researchers are interested in the phenomenon known as "communities of practice." They collect qualitative data via formal interviews or informal conversations and they use the individual as their unit of analysis.
c. Intermediate perspective typically focusing on case studies. This assumes a combination of the

previous methodologies. The studies follow the interpretative tradition to the extent that the researchers gather data mainly from interviews and observation. They differ in the sense that the focus is in on the complete case, or on comparisons between similar cases.

As Easterby-Smith et al. (2000) indicate, the different methods are appropriate for different kinds of research problems. Although the European works mainly use the interpretative methods, North American works place more emphasis on the quantitative empirical investigation. We will take this latter approach in this work to analyze the OL measurement, since this will allow its complex and multidimensional nature to be perceived via a quantitative analysis of its dimensions (Slater & Narver, 1995).

ORGANIZATIONAL LEARNING AS A MULTIDIMENSIONAL CONSTRUCT

The academic field has, in the last decade, shown an increasing interest in the development of a measurement scale that allows the valuing of the OL as a multidimensional construct, made up of a set of attributes or related dimensions. Thus, following a prescriptive approach (Vera & Crossan, 2003), there is a first workgroup referring to how organizations should really learn. In this

Table 1. The measurement of the organizational learning capability

Author(s)	OL dimensions (items)	Unit of analysis	Research objective
Goh (2003)	• Clarity of mission and vision (4) • Leadership commitment and empowerment (5) • Experimentation and rewards (5) • Effective transfer of knowledge (4) • Teamwork and group problem-solving (3)	Individual: A longitudinal study with two samples formed by individuals of two companies	To describe a tool to measure an organization's learning capability
Goh & Richards (1997)	• Clarity of purpose and mission (4) • Leadership commitment and empowerment (5) • Experimentation and rewards (5) • Transfer of knowledge (4) • Teamwork and group problem-solving (3)	Individual: 632 people from four organizations, two from the public sector and two from the private sector	To measure the managerial practices that facilitate organizational learning or the conditions and enablers that can help an organization become a learning organization
Hult (1998)	• Team orientation (5) • Systems orientation (4) • Learning orientation (4) • Memory orientation (4)	International strategic business unit (SBU): A sample of 179 domestic and 167 international SBUs	To examine the role of organizational learning in the strategic sourcing process of a multinational service corporation
Hult & Ferrell (1997)	• Team orientation (5) • Systems orientation (4) • Learning orientation (4) • Memory orientation (4)	International strategic business unit (SBU): A sample of 179 domestic and 167 international SBUs	To develop and test a measurement of learning capability (OLC) using the purchaising process of a multinational corporation
Jerez-Gómez et al. (2004)	• Management commitment (5) • System perspective (3) • Openness and experimentation (4) • Knowledge transfer and integration (4)	Organization: 111 firms from the chemical industry	To develop a measurement scale for organizational learning capability
Yeung et al. (1999)	• Generate and generalize ideas with impact (24) • Incompetencies for learning (34)	Strategic business unit (SBU): 268 SBUs from large size and a wide variety of industries	To establish how variables of context (industry, business strategy and organizational culture) can influence how and why an organization learns, and how the organizational learning capability will affect business performance