Chapter XI

Ontology-Based Competency Management: Infrastructures for the Knowledge Intensive Learning Organization

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Editors’ Notes

Miguel-Angel is the leader of the Special Interest Group on Reusable Learning Objects and Learning Design in the Association for Information Systems (http://www.siglo.org). The topic of this chapter is of crucial importance. For many years, the so-called educational technologies could not find a way to be integrated within the Human Resources management strategies of organizations. Competencies management is the new trend for HR departments, since learning initiatives are considered as efforts toward the development of competencies and skills linked to critical business processes and objectives. The ontological considerations of competency management reveal the critical need to map competencies and skills and also to define learning processes that can be associated with the development of the intended competencies.

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Abstract

Learning activities can be considered the final outcome of a complex process inside knowledge intensive organizations. This complex process encompasses a dynamic cycle, a loop in which business or organizational needs trigger the necessity of acquiring or enhancing human resource competencies that are essential to the fulfillment of the organizational objectives. This continuous evolution of organizational knowledge requires the management of records of available and required competencies, and the automation of such competency handling thus becomes a key issue for the effective functioning of knowledge management activities. This chapter describes the use of ontologies as the enabling semantic infrastructure of competency management, describing the main aspects and scenarios of the knowledge creation cycle from the perspective of its connection with competency definitions.

Introduction and Background

The “Semantic Web” vision described by Berners-Lee, Hendler, and Lassila (2003) has recently fostered research on the use of formal ontologies to support “intelligent” behaviors for a variety of Web applications. These applications include Web-based learning in a broad sense, which is commonly referred to as “e-learning” (Lytras, Tsilira, & Themistocleous, 2003). Nonetheless, the perspective of most of those current applications does not consider organizational needs as the essential driver for the elaboration and delivery of learning activities, but focuses on other aspects regarding technical, social, or usage issues from the perspective of the individual learner or informal communities of learners (Anderson & Whitelock, 2004).

An organizational perspective to Semantic Web-enabled e-learning should focus on the role of learning activities in the broader framework of organizational learning (i.e., on providing a semantic account to existing learning processes). But in addition, the implications of the semantic approach to organizations should be explored as a source
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