

## Chapter 27

# Organizational Learning and Web 2.0 Technologies: Improving the Planning and Organization of a Software Development Process

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### ABSTRACT

*The knowledge era redefines companies' scenarios and workers' profiles, requiring models and tools for Knowledge Management (KM) and Organizational Learning (OL) to respond to external demands. The growth of the Internet and the emergence of Web 2.0 created the conditions for Enterprise 2.0. This chapter analyzes Web 2.0 usefulness in the workplace and presents a software application for KM and OL that aims to support the software development process in software houses. The conclusion discusses controversial issues related to collaboration and competitive markets and presents some reasons for the apparent negative reaction of companies to adopt systems based on social networks.*

### INTRODUCTION

In the knowledge era, the new corporative scenario is redefining the profile of workers. This perspective requires professionals who are able, at same time, to learn in non-conventional ways and to work collaboratively to engender innovative solutions. In this scenario, models and tools for Organizational Learning (OL) can be useful as OL deals

with the ways an organization learns and adapts to respond to external demands. In organizations that learn, people continually expand their capacity to create results using new forms of thinking and free collective aspiration. OL has emerged from the belief that design and intensive knowledge-based organizations' competitiveness depends on its commitment with the workers long term learning processes foundations (Senge, 1990).

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The challenge is to manage the exchange of knowledge among individuals and promote learning. In software development projects, such as in other domains, the knowledge built by the team is usually valuable and can be useful for similar projects in the future. There, people can learn, consulting and analyzing previous projects and benefiting from the team knowledge and background in similar projects. It happens that this knowledge with information concerning the decision-making at different stages of development often gets lost because it is not properly stored. Moreover, it is actually the result of collective learning about the internal work processes themselves and ways of working. How do you solve this problem? Organizations should learn from their experiences, record the lessons learned and share the knowledge internally. Knowledge should be institutionalized and thus become common property rather than be restricted to a few key people and lost when they leave the organization. Thus, it is necessary to have easy to use systems to support the processes of OL and Knowledge Management (KM).

On the other hand, the expansion of the Internet in business and commercial contexts has led to the emergence of advanced technologies that have allowed the Web to become a forum for information exchange and collaboration. This set of new technologies are referred to as Web 2.0, whose characteristics are users as co-developers, more lightweight applications, greater ease of use, flexible and accessible uses and culturally acceptable technologies. As a result, Web 2.0 tools are increasingly being proposed to support training programs via distance education and KM. McAfee (2006) argues that Web 2.0 technology is now popular and effective for generating, sharing and refining information. The need to manage business knowledge and the popularity of Web 2.0 have created positive conditions for the emergence of so-called Enterprise 2.0 or Enterprise Social Software. Enterprise 2.0 is the business

use of Web 2.0 to enable business processes by improving collaboration via the use of social media tools. McAfee (2006) describes Enterprise 2.0 as the use of emergent social software platforms within companies, or between companies and their partners or customers. Enterprise 2.0 focuses on the platforms that companies can sell or buy to reveal best practice and production, resulting from the knowledge built by their employees. It brings together social software to be used in commercial contexts and includes the changing social network for corporate intranets, with a variety of tools and features.

Given this context, this chapter aims to broadly analyze the usefulness of Web 2.0 technologies in the workplace argue its possibilities of use and productivity. Our specific goal is to present a software application for KM and OL that aims to support the software development process in software houses. The application allows the storage of all employee interactions (emails, wiki), involved in a project or in several projects, and project documents (diagrams, code, software tests, meeting minutes, and so on), generated throughout the development process. In order to do this firstly the chapter discusses OL, KM, Web 2.0 and Enterprise 2.0, it then presents the developed system. In addition, the work offers a discussion on KM evaluation to identify companies' possible reactions to the adoption of Web 2.0 technologies-based KM systems. Finally, conclusions and future works are presented.

## **ORGANIZATIONAL LEARNING, KNOWLEDGE MANAGEMENT, AND WEB 2.0: BRIEF OVERVIEW**

In the field of our study, there are many related concepts involved: organizational learning, knowledge management, Web 2.0, and Enterprise 2.0 proposal. In the following sections, we discuss these concepts as they provide our rationale. .

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