Chapter 13

Knowledge Management Practices in Brazilian Software Organizations: The Case of SERPRO

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EXECUTIVE SUMMARY

This chapter explores knowledge management practices in a software organization. It argues that software companies are knowledge intensive organizations and therefore they must properly address the matter of knowledge management. This case study highlights the importance of understanding the practices of knowledge management and describes knowledge acquisition, protection, transfer, and application practices in the context of a Brazilian software organization. The authors hope that this chapter increases understanding of existing knowledge practices in software organizations.

INTRODUCTION

Software development and maintenance are knowledge intensive activities. Fast technology development and reduced time to market make software business thoroughly dynamic. Software organizations in general must rely upon the ability of its software engineers to adapt to a challenging environment and, in consequence, their results can be highly influenced by its intellectual capital. In this context, knowledge management can be one influential factor affecting software organizations’ performance and therefore must be properly addressed.

Specifically regarding the software engineering context of a Brazilian software organization, results of a recent survey (Furquim, Oliveira, and Amaral, 2007) show that knowledge repositories were not used by software practitioners, who preferred to use the organization’s software process portal as a knowledge base. These results motivated the development of this case study.
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According to von Krogh, Ichijo, and Nonaka (2001, p. 38) it is much easier to talk about knowledge management than to act accordingly. To the authors, as it has been practiced in organizations, knowledge management is a disturbing paradigm instead of a reforming one. Alavi and Leidner (2001) recommend a conceptual structure to the analysis of organizational knowledge management based on the view of the organization as a knowledge system. In accord with this structure, organizations consist of four groups of socially enacted knowledge processes: a) creation, b) storage and retrieval, c) transfer and d) application.

From the point of view of Grover and Davenport (2001) knowledge processes can be resumed in knowledge generation, knowledge codification and knowledge transfer/realization. Lee and Choi (2003) believe that knowledge management processes can be resumed in create, store, share and use knowledge. Gupta and Govindarajan (2000) claim that knowledge management comprises two large tasks: accumulating and mobilizing knowledge. The task of accumulating knowledge can be resumed in create, store, share and use knowledge, while the task of mobilizing knowledge can be resumed in create, store, share and use knowledge.

Lai and Chu (2000) reviewed different knowledge management theoretical models, and grouped the different knowledge management tasks found in the literature in a set of six activities: a) initiation, b) generation, c) modeling, d) repository, e) distribution and transfer and f) use and retrospect. To Gold, Malhotra, and Segars (2001), successful knowledge management can be understood as an organizational capability to acquire, protect, convert and apply knowledge combined with a knowledge infrastructure consisting of enterprise wide knowledge systems, which are integrated technical infrastructure; knowledge strategy; common culture; and commitment of users; professional culture; and knowledge management initiatives.

To Gupta (1999) the main reason of failure of knowledge management initiatives lies on the human factors (culture). The other factors are: a) distribution and transfer, b) use, c) motivation, and d) technology. According to the authors, successful knowledge management initiatives are those that are conducted with a knowledge infrastructure consisting of enterprise wide knowledge systems, which are integrated technical infrastructure; knowledge strategy; common culture; and commitment of users; professional culture; and knowledge management initiatives.

To Figallo and Rhine (2002, p. 119) affirmative incentives and demonstrations in the new cultural direction can foster knowledge sharing culture in organizations. By success culture, there are several other factors that influence the success of knowledge management initiatives. These factors are: a) distribution and transfer, b) use, c) motivation, and d) technology.
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