Chapter XX

Towards Constructionist Organizational Data Mining (ODM): Changing the Focus from Technology to Social Construction of Knowledge

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ABSTRACT

This chapter addresses the definition of organizational data mining (ODM) practices that leverage knowledge creation in organizations. It argues that knowledge resides in human minds and it is created by the continuous action and interaction happening in specific social contexts. Knowledge has a rational and an emotional foundation. When represented, knowledge becomes information that shapes the action and interaction by which individuals and communities create their specific knowledge. The purpose of this chapter is to highlight the advantages of adopting a constructionist approach and to present some constructionist guidelines to assist the definition of ODM practices that leverage knowledge creation in organizations.

INTRODUCTION

The creation of scientific and organizational knowledge is guided by the assumptions its creator holds about the nature of the studied reality, the validity of knowledge and the methods and techniques to be used to assist the process.

Traditionally, it has been assumed that an organization and the business in which it is engaged have an objective existence that can be known from an independent and neutral viewpoint. Knowledge is created to assist the decision-making, the definition of strategies and the organizational change. Nevertheless, organizations can also be understood as socially constructed realities. They are, then, seen as subjective in nature, since they do not exist apart from their members and other stakeholders.

Attached to these ontological perspectives on organizations are specific epistemological and methodological assumptions that provide different ways of creating knowledge about organizational phenomena. The next section explores two perspectives on knowledge creation, presenting the advantages and drawbacks of adopting either one of them.

Whatever the paradigm used to guide the creation of knowledge, the process unfolds at two levels: individual and social. At the individual level, the intending knower, through processes such as cognition, action, interaction and emotion, actively creates knowledge. At the social level, people develop shared knowledge, when they are actively involved in the construction of something external and sharable. This chapter details these two levels of knowledge creation.

In the last two sections of the chapter, the constructionist perspective on knowledge creation is used to highlight some problems associated with the current practices in ODM, and some constructionist guidelines to assist the definition of ODM practices that leverage knowledge creation in organizations are presented.

The chapter is structured with the aim of challenging the much advanced idea that knowledge can be elicited from organizational actors and stored in repositories, assuming an independent existence from those who create it. This idea, true or false, is assumed by most existing frameworks for software and requirements engineering (Finkelstein, 2000).

In this chapter, we argue that knowledge resides in human minds, and it is created by the continuous action and interaction happening in specific social contexts. Knowledge has a rational and an emotional foundation. It has an inherently tacit nature and is made explicit in language, through the myriad of linguistic artifacts at the disposal of organizational actors. When represented, knowledge becomes information that shapes the action and interaction by which individuals and communities create their specific knowledge. We also argue that ODM can be designed to assist the social construction of knowledge.

THE PROCESS OF
KNOWLEDGE CREATION

Scientific or organizational knowledge creation has been addressed from different perspectives along the history of science and, in particular, of social sciences. The process is guided by the set of values, beliefs and norms shared by the members of the

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