

Chapter 141

Task-Based Knowledge Management Approach

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INTRODUCTION

In modern organizations, the major role of knowledge management is supporting knowledge work. The concept of knowledge work assumes not only task performance, but also the review and evaluation of the work done in order to understand and learn from the experience. Knowledge work relies on a body of knowledge to support processes that address both the performance of work and the intellectual aspects of the work activity (Zuboff, 1988). In this sense knowledge management becomes one of the most important mechanisms in implementing such support. In this article we present task-based knowledge management (TbKM) as an alternative approach to knowledge management (KM).

BACKGROUND

Most KM approaches focus on organizational knowledge and/or organizational processes and their management (e.g., Davenport & Prusak, 1998; Tiwana, 2000; Awad & Ghaziri, 2003). The TbKM approach addresses the management of knowledge work rather than knowledge. It is a bottom-up approach that focuses on the practicalities of work activities, as performed by individuals and groups. Thus TbKM is directed to supporting both:

- task performance to achieve organizationally defined outcomes; and
- work practices of actors including the generation and collection of experiential knowledge associated with task performance, as well as single- and double-loop learning (Argyris & Schön, 1978).

The focus of TbKM is not directed towards automating any work practice. Task-oriented methods for knowledge-based systems were proposed in artificial intelligence projects to automate problem solving and reasoning by representing knowledge in a computable form (Chandrasekaran & Johnson, 1993). These approaches relied on capturing all organizational knowledge related to the task and creating a formally defined knowledge repository (Schreiber, Welinger & Breuker, 1993).

The TbKM approach provides an infrastructure for knowledge work where knowledge is a by-product of task performance. This infrastructure allows the knowledge worker to document the task instances in a way that is shareable with other actors performing that task. Thus TbKM is essentially an implementation of a *knowledge work support system (KWSS)* that systemically preserves knowledge of each instance of the task in a dynamic memory system. In order to support knowledge work, this memory includes the pragmatic outcomes as well as the knowledge created through task performance. Effective utilisation of this memory is facilitated by TbKM functionality such as reasoning, memory aids, explanation facilities, and learning capability. Moreover, the TbKM approach is consistent with reflective practice in that actors are encouraged to reuse and create knowledge through learning as an integral part of the task (Schön, 1991).

The task-based approach has been formalised as a theoretical framework that underpins our research. This approach has been used as an evolving framework analytically to diagnose research settings and determine the aspects of focus. Additionally, the framework has also been the core of the conceptual design for prototyping KM systems and KM development programs.

The task-based approach to knowledge management has evolved from a wide range of projects that have been undertaken and the practical requirements imposed by industry collaborators (Burstein & Linger, 2003, 2002; Linger & Burstein, 2001; Linger, Burstein, Zaslavsky & Crofts,

1999; Linger, Burstein, Ryan & Kelly, 2000; Fennessy & Burstein, 2000).

MAJOR ELEMENTS OF THE TASK-BASED APPROACH TO KNOWLEDGE MANAGEMENT

The TbKM approach focuses on *knowledge work*, not *knowledge* as the object of knowledge management. Thus the major elements of this approach are:

- a task focus
- a task-based model of knowledge work
- a community of practice
- an organizational memory
- task outcome
- knowledge work support

Task Focus

Underlying the TbKM approach is the focus on work practice. The approach aims to explore how the work is actually done, not how it is meant to be done or what individuals say they do. In this context, a *task*:

is a substantially invariant organizational activity with outcomes that include tangible outputs that are central to the organization's viability and the internal outcomes that are potential drivers of organizational change. (Burstein & Linger, 2003, p. 290)

In terms of this article, no distinction is made between an (organizational) *activity* and *task*, and the terms are used interchangeably unless indicated otherwise. Organizational activity, as used here, derives from Situated Activity Theory proposed by Iivari and Linger (1999, 2000) to characterize knowledge work. Such activity differs from the actions of individual actors, as the scope of the activity requires a number of actors for its completion.

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