

Chapter 5

A Framework for Managing the Life Cycle of Knowledge in Global Organizations

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ABSTRACT

This chapter describes a framework for managing the life cycle of knowledge in global organizations. The approaches described in this chapter were initially used to successfully build a knowledge dissemination system for the laboratories and facilities that are under the direction of the United States Department of Energy (DOE) (Salisbury & Plass, 2001). The follow-on work to this effort was the development of a collaboration application that fed the dissemination system for the DOE laboratories and facilities. The resulting system managed the life cycle (creation, preservation, dissemination and application) of knowledge for the DOE laboratories and facilities (Salisbury, 2003). While seen as a highly successful system, a significant problem was the difficulty in identifying the right knowledge that needed to get to the right people at the right time. This is also a significant problem for global organizations that need to share their knowledge across international boundaries. What is needed to solve this problem for global organizations is a systemic way that can be applied as an organizational strategy to identify this knowledge, the people that needed it, and the time it should be accessible. This chapter focuses on the use of performance objectives for managing the “right” knowledge in a global organization. In the next section, the background of the projects that inspired the framework is introduced. Next, the framework itself is discussed: the theoretical foundation for the framework, Work Processes, Learning Processes, and Methodologies for managing the life cycle of knowledge in a global organization. (For a full discussion of this approach in book form, see Salisbury, 2009).

BACKGROUND

The project that started this work was the design and development of the Process Realization Pro-

cess Online Website that is used by the United States Department of Energy (DOE) and its affiliates. Over the last several years, DOE has streamlined its operations to make production more efficient in a variety of coordinated engineering, manufacturing, assembly, and management

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activities. In so doing, eight separate laboratories and plants around the United States (a subset of all DOE labs and facilities) have agreed to utilize the Product Realization Process (PRP) with a common set of Technical Business Practices (TBPs) that both prescribe and guide operations. The goal was to get a potential user community of one to two thousand individuals at these eight sites to be aware of, understand, and apply the TBPs, related documents, and terminology to their projects. In addition, the user community is an aging population, not unlike the rest of the DOE. While these experienced users are highly knowledgeable about how business has been or should be conducted, others are being asked for the first time to subscribe to the common set of business practices. Experienced employees with the TBPs, approaching their retirement, have a large amount of tacit knowledge about the TBPs that would be lost to their organization if this expertise were not captured. In addition, newcomers to these eight DOE facilities need to have an orientation while, at the same time, get a more complete picture of processes, procedures, and practices. The PRP Online Website was developed to be a dissemination system for process documents, instruction, examples, and nuggets of expert advice on applying the TBPs to the daily work of the eight laboratories and plants under the direction of DOE.

The follow-on work to this effort was the development of a collaboration application — the Team Collaboration System (TCS) — that fed the dissemination system for the DOE laboratories and facilities (Salisbury and Dickinson, 2006). TCS was developed for process improvements on the TBPs with team comprised of representatives from the laboratories and facilities of DOE. This multi-organizational and geographically dispersed team needed a system that would support complex collaboration and yet be easy to use. They also needed project management capabilities for team members to recommend improvements, other members to review the improvements, and of-

ficials with oversight responsibilities to approve the improvements before they become policy. With TCS, there was a complete and integrated system in place that supported the creation of new knowledge (process improvements), the preservation of the knowledge (stored in TCS), and the dissemination of that knowledge (documented process improvements are automatically transferred after approval to the PRP Online Website). However, complications did arise. The process improvements that were approved in the TBPs would have to be traced through the associated instruction, examples, and nuggets of expert advice that were also disseminated through the PRP Online Website. It became quite a difficult task to ensure that the associated instruction, examples, and nuggets of expert advice were updated for each process improvement.

In examining the process improvements, it was apparent that they were almost all were the result of changing a “requirement” in one of the TBP documents. These requirements were wide ranging in nature from spelling out specific handling details to outlining general rules of manufacturing. However, it was clear they were the focal point of the knowledge work that was to be completed under the guidance of the TBPs for the Product Realization Process. So, these requirements described in the TBPs became the way that the “right knowledge” was identified and served up to the “right people” at the “right time” for following the Product Realization Process. Users could logon to the PRP Online Website, drill down to a process, find the TBP that listed the requirements for that process, and have access to the instruction, examples, and expert advice that were associated with those requirements.

The resulting system based on these requirements seemed to work remarkably well for identifying and managing the “right” knowledge for the combined system made up of TCS and the PRP Online Website. The thought of “generalizing” this way of identifying and managing knowledge came as a natural response. However, it was im-

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