Chapter XX

Emergency Preparedness and Information Systems: A Case Study Using Wiki Technology

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ABSTRACT

This chapter is about the design and implementation of an information system, using wiki technology to improve the emergency preparedness efforts of the Claremont University Consortium. For some organizations, as in this case, responding to a crisis situation is done within a consortia environment. Managing knowledge across the various entities involved in such efforts is critical. This includes having the right set of information that is timely, relevant, and is governed by an effective communication process. It is expected that issues such as training in use of system(s), a knowledge sharing culture between entities involved in emergency preparedness, and a fit between task and technology/system must be there to support emergency preparedness activities given such structures. This study explored the use of wiki technology to support knowledge management in the context of emergency preparedness within organizations. While initially found to be useful for supporting emergency preparedness, continuing experience with the system suggests that wikis might be more useful as a collaborative tool used to train people involved in emergency preparedness, rather than being used to support response activities during an actual emergency.
INTRODUCTION

Research about emergency management information systems has accelerated since the 9/11 events (Campbell et al., 2004). However, researchers do not use a common terminology to describe emergency management information systems. Jennex (2004; 2004a) for instance, calls these systems, emergency information systems (EIS). Campbell et al. (2004) use the term emergency response systems. Turoff (2002) uses the term emergency response management information systems (ERMIS), and extends this idea to the notion of a dynamic emergency response management information system (DERMIS) (Turoff et al., 2004). Nevertheless, the majority of the researchers in this area seem to agree that despite different naming conventions, emergency management information systems should be designed to support emergency preparedness, and guide effective response during an actual crisis situation. In addition, although researchers do not explicitly link the idea of emergency management information systems to knowledge management, the influence of the latter on emergency management systems is evident in the literature.

This chapter presents a case study about the implementation of a Web-based knowledge management system to support the Claremont University Consortium (CUC) and the Claremont Colleges in general, in emergency preparedness. The academic nature of this study centers on how an information system (specifically, a knowledge management system) can improve emergency preparedness within a consortium environment. The practical nature of the research concerns how CUC was made more ready to respond to and recover from emergencies that it might experience.

This study suggests that wiki technology might be useful to support knowledge management in the context of emergency preparedness within organizations. However, issues such as training in use of system(s), a knowledge sharing culture between entities involved in emergency preparedness, and a fit between task and technology/system must be there to support emergency preparedness activities given such structures.

Turoff et al. (2004) take a design stance in discussing emergency management systems. We suggest that design of any emergency management system be tied to knowledge management principles. In addition, our findings suggest that in addition to design, issues such as training with technology, fit between tasks and technology, and the existence of a knowledge sharing culture are crucial when an organization intends to implement a knowledge management system to support emergency preparedness efforts.

RELEVANT LITERATURE

Davenport and Prusak (1998) define knowledge as an evolving mix of framed experience, values, contextual information and expert insight that provides a framework for evaluating and incorporating new experiences and information. Knowledge often becomes embedded in documents or repositories, and in organizational routines, processes, practices, and norms. Knowledge is also about meaning in the sense that it is context-specific (Huber, Davenport, & King, 1998). Jennex (2006) extends the concepts of context to also include associated culture that provides frameworks for understanding and using knowledge. A simpler definition of knowledge is that it is the how and why of something. Gaining knowledge is gaining insight into how and why things happen. To be useful, this knowledge must be framed in context and culture, the information and data that explain how the knowledge was generated, what it means, and how it should be used.

Alavi and Leidner (2001) define a KMS as “IT-based systems developed to support and enhance the organizational processes of knowledge creation, storage/retrieval, transfer, and application” (p. 114). They observe that not all KM initiatives will implement an IT solution, but they support IT as an enabler of KM. Additionally, they discuss various perspectives on
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