

Chapter 14

Use of Wikis for Enhancing E–Collaboration in Geographically–Dispersed Environments

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ABSTRACT

Information technology has radically altered corporate structures and the way work is transacted in corporate organizations. Firms are seeking to enhance their efficiency by themselves becoming more geographically dispersed and by availing of the benefits of outsourcing. Functional groups are becoming increasingly “virtual” and spatially dispersed; much of organizational interaction is now technology mediated. These trends in turn call for further technology innovations to facilitate communication and collaboration in such situations. Wiki-based systems are an emergent and promising platform for technology mediated interaction. In this study, we describe a Wiki-based system, delineate its major features, and compare it with other available communication technologies. We then examine how the use of Wiki-based systems can enhance communication and collaboration outcomes in the context of a collaborative task, requirements elicitation, chosen for this purpose since it is high value and demands intense interaction across functional domains. We present a model and develop an understanding of the manner in which specific Wiki features enhance three variables – media richness, contextual richness, and organizational memory – which in turn impact communication quality as well as requirements quality in terms of the clarity, completeness, and consistency of a requirements specification. We conclude with a discussion of the implications of our study and of possible future research in this area.

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INTRODUCTION

Web-based technologies are playing an ever-increasing role in the modern world and are proving to be both adaptable and extremely beneficial to a range of hitherto unsuspected applications. A recent, interesting development in this area has been the emergence of Wiki-based systems, a relatively new technology that provide a promising new platform for technology mediated collaboration. Wiki-based systems possess certain features that bridge gaps existing in other collaboration technologies and address several points that have inhibited the diffusion of other e-collaboration technologies (McAfee, 2006). There is thus reason for researchers in a wide range of management disciplines to study both the underlying dynamics and the applicative possibilities of this new technology. However, few scholarly works have as yet addressed themselves to either a theoretical study of the processes at work in a group that uses a Wiki-based interactive platform, or to the question of how Wiki-based systems could impact work processes if adapted to structured environments such as a business firm. We undertake such an exercise by examining the possible ramifications of using a Wiki-based system as the interaction platform in e-collaboration exercises, and identify certain salient features in Wiki-based systems that conduce to improving the effectiveness of e-collaboration. We then develop these concepts further in the specific context of a requirements elicitation (RE) process.

We focus upon RE to illustrate the collaboration potential of Wiki-based systems because it is a high-value, recurring task that requires a high degree of collaboration among systems developers and users (Coughlan, Lycett, & Macredie, 2003). The study of RE is important because several surveys and studies (Browne & Rogich, 2001; Grünbacher & Briggs, 2001; Keil, Cule, Lyytinen, & Schmidt, 1998) have established that misunderstood, ambiguous, and incomplete detailing of requirements rank among the most

important reasons behind systems failure. Communication is integral to any collaborative task and is all the more important in the context of an intensely interactive and collaborative task such as RE (C. J. Davis, Fuller, Tremblay, & Berndt, 2006). In this paper, we focus upon only one specific collaborative task – Requirements Elicitation – and upon one particular collaboration aspect of that task – communication among various stakeholders – in order to narrow the domain of inquiry and to bring sufficient depth to our theoretical analysis. We explore how the features of Wiki-based systems have the potential to enhance three important variables directly relevant to communication and e-collaborative work practices that lead to improved outcomes in the requirements elicitation task. These are the media richness, contextual richness and the organizational memory that Wiki-based systems uniquely perpetuate. The RE qualities that are discussed in particular as benefiting from these variables are the quality of communication within the larger RE team; and the requirements' quality, which comprises of the clarity, completeness, and consistency of the requirements specifications.

Our study contributes to the literature on e-collaboration in two significant ways. First, it develops an understanding about how certain specific features of Wiki-based systems render them a rich and interactive e-collaboration platform by enhancing communication quality in high-value and intensely collaborative tasks. Second, it provides insights on how the mediating variables – media richness, contextual richness, and organizational memory – enhance the quality of communication and of e-collaboration outcomes in the context of RE. This is a significant contribution since enhancing the quality of RE through the use of Wiki-based systems could have a major impact on systems development and project outcomes.

The remainder of this chapter is structured as follows: the next section presents a general introduction to collaboration and e-collaboration, and a subsection details the main challenges in

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