

Chapter VIII

Toward Improved Community–Supporting Systems Design: A Study of Professional Community Activity

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ABSTRACT

In this article, we analyze the design factors of community systems in two real-world professional communities — a learning network and an expert network — that employ a mix of communication modes, that is, face-to-face communication and computer-mediated communication. Our objectives are to determine which design factors influence community activity and therefore community output. We furthermore intend to make recommendations to improve the design of community systems that support professional communities using a mix of communication modes. Our study is exploratory and based on action research given the lack of studies on the design of community-supporting systems in professional communities that employ a mix of communication modes. To illustrate similarities and to enhance the

generalizability of our findings, we analyzed two real-world professional communities in-depth, namely, a learning network and an interorganizational expert network. Our study shows that face-to-face communication is the primary mode of communication in these communities; the community systems that they employ only have a supporting function. This leads us to a few design guidelines for the systems that support such communities. Generally, community systems have to support professional communities' work processes and relationship development. Important functions for work-process support are those that support face-to-face meetings (for the preparation and wrap-up of meetings) and that explicitly support specific work processes. Important functions for relationship development are functions that enable or facilitate face-to-face meetings, for example, member profiles

INTRODUCTION

In recent years, it has become normal to support geographically dispersed communities with advanced forms of computer-mediated communication (CMC) systems, usually based on Internet technology. These community-supporting systems (in short, community systems), frequently termed *teamware* (Schulte, 1999) or *groupware* (Bach, Vogler, & Österle, 1999), support the interactive exchange and creation of documents, online discussions, chat rooms, and role-based personalization. Besides communities that rely solely on CMC (frequently termed *virtual communities*; Rheingold, 1998), the majority of professional communities employ a mix of CMC and other communication modes (i.e., telephone, fax, face to face). Much research has been devoted to the analysis of virtual communities (e.g., Bieber et al., 2002a; Bieber et al., 2002b; Godio, 2000; Rheingold) and to the comparison of CMC with other communication modes (e.g., Etzioni & Etzioni, 1999; Wiesenfeld, Raghuram, & Garud, 1999). However, there has been little research on the design of community-supporting systems in professional communities that employ a mix of communication modes.

To address this gap, the objective of our research was to analyze community system design factors in professional communities such as learning and expert networks that employ a mix of communication modes. We addressed the following research questions in detail:

1. Which community system design factors influence community activity and therefore community output?
2. How should community systems supporting professional communities be designed?

Because our research was exploratory, we used an action research (AR) approach (Checkland & Holwell, 1998). Action research is often used in the information-systems domain for the exploratory analysis of systems design in real-world settings (Davison, Martinsons, & Kock, 2004; Mansell, 1991).

Two real-world communities were the object of our in-depth study: a learning network of postgraduate students and an interorganizational expert network consisting of experts from different companies working in the areas of customer-relationship management (CRM) and knowledge management (KM).

In the following section, we describe the research model developed from the literature on computer-mediated communication and virtual communities that which presents the causal relationships discovered in previous research relevant to our research questions. Next, we describe our research methodology. Subsequently, we describe and discuss the results of our research to arrive at propositions for the design of community systems supporting professional communities. Finally, we summarize our findings and discuss further research opportunities.

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