

## THE EDITOR'S COLUMN

### **E-Collaboration: Working Together, Being Apart**

This special issue of the *e-Service Journal* focuses on electronic collaboration (e-collaboration) and includes five papers that examine a range of issues from the underlying technologies to the organizational impacts of e-collaboration. E-collaboration technologies and the context in which they are used have undergone tremendous change and development in recent years. They have also generated significant changes in the contexts of collaboration. The papers included in this issue reflect on and explore the impact of these changes. In doing so, the papers collectively identify key trends occurring in the electronic support of distributed collaboration.

One of the more visible trends is how Web-based systems have dramatically altered the manner in which distributed teams communicate and collaborate. Since early implementations of group support systems focused on face-to-face environments, considerable attention had to be paid to the “client” infrastructure—from how terminals were arranged to the sequence in which tools were available. Even with the emergence of distributed communication tools such as Notes, the client side of such systems could not be ignored. Such investments in client infrastructure were costly and proved to be major hurdles in the wide deployment of distributed GSS for many organizations.

With the emergence of the Web and the free availability of browsers, a new generation of distributed group support tools has evolved. Such tools, some of which are freely available (e.g., ‘NetMeeting’ as employed by groups soliciting software requirements in the Damian paper), have reduced organizational overhead by reducing the focus on the client infrastructure and integrating features of the tools with existing systems. Several papers in this issue—Kumar and Benbasat; and Damian, for example—examine different aspects of the Web in the context of distributed communication and collaboration.

Kumar and Benbasat’s paper, “Para-Social Presence And Communication Capabilities Of A Web Site: A Theoretical Perspective”, looks at emergent properties in the interaction between a web site and its visitors. A web site, when seen as an agent in the social interaction between itself and a visitor, plays an active role in the construction of the parameters of involvement and subsequent interaction. Hence, businesses may need to rethink how they view the design of website environments in general and e-collaboration support tools in particular.

A second trend that is evident in a variety of distributed group support systems is the incorporation of various multi-media capabilities. From the relatively mundane voice-embedded e-mail messages to the more sophisticated full motion video conferencing, the gamut of options for communicating across distances has increased tremendously over the last decade. Partly as a reflection of this trend, some papers in this special issue deal directly —Damian, for instance—and indirectly with these matters.

Damian’s paper, “An Empirical Study of a Multimedia Group Support System for Distributed Software Requirements Meetings,” presents results from a study using high-quality audio and video, along with real-time application sharing in software requirements solicitation. Generally the paper argues that the degree of quality and technology support have a positive impact on usage and team performance. Organizations can look to these results for guidance on methods of support for teams involved in requirements gathering.

Another trend in e-collaboration has less to do with technological maturity and more to do with the methodological maturity of this field of study. In the early days of collaboration support systems research, primarily academic questions were studied using relatively precise research methods. Now, however, studies are pushing the methodological envelope. Ocker and Morand for instance, probe organizationally relevant issues with precision *and* rigor.

In their paper, “Exploring the Mediating Effect of Group Development on Satisfaction in a Virtual and Mixed-Mode Environment,” the authors examine the impact of group development factors—cohesion and conflict management—on members’ satisfaction with the interaction process and the task solution. The experiment limited interaction mode to one of two conditions—pure CMC and a combination of CMC and face-to-face. The study reports that media affected participants’ perceptions about cohesion and conflict management. Moreover, the levels of perceived cohesion and conflict management predicted outcome satisfaction. The study concludes that group development is a mediating factor, influenced by media and, in turn, influencing outcome satisfaction. A practical upshot of this study is that organizations may now better understand the effect of various support systems on group development, and use that knowledge to facilitate better group performance.

A trend not yet realized, but clearly discernable, is that the new technologies and the collaboration resulting from them are likely to change not only how groups perform and how they interact, as examined by other papers in this issue, but also (and perhaps more importantly), the structure of technology-mediated groups and how they collaborate.

Notably, Watson-Manheim and Belanger, in their paper “Support for Communication-Based Work Processes in Virtual Work,” scrutinize closely the impact of technological support modes on the work processes, including communication. Questions they deal with include how much and what kind of communication support is good for team performance. Another issue of concern is the fact that many virtual team members participate concurrently in multiple teams. A natural question that arises is related to how multiple team membership affects or is affected by the mode of collaboration support. This paper presents several interesting findings based on interviews with e-collaborators working in several large companies.

Finally, in the context of today’s global economy, researchers must investigate, both empirically and theoretically, issues that transcend a purely North American context. Reflecting the increasingly international and interconnected nature of the world we live and work in, the last paper seeks to extend our knowledge of collaboration support beyond a single country and a single context.

In this context of global collaboration, an emergent form of support is evolving through the use of asynchronous learning networks (ALNs). Whether within formal educational contexts or in group-oriented work, e-collaboration requires extensive learning by its participants. To exhibit effective performance, a group’s participants must assimilate topical content, procedural rules, and interaction effects. The learning complexities involved in distributed collaboration give rise to many questions. One issue that has seen little investigation concerns the potential effects of distributed support systems on communication occurring among team members from different cultures. Chang and Lim study such effects in their paper, “Cross-Cultural Communication and Social Presence in Asynchronous Learning Processes.” The paper investigates the relationship between interaction characteristics supported by a medium (e.g., degree social presence) and the cultural traits of the users (e.g., degree of individualism). The authors develop some propositions with regard to the impact on learning, as predicated by the fit between the communication characteristics of the medium and the cultural characteristics of the participants.

In conclusion, the papers in this special issue of the *e-Service Journal* reflect accurately the three key changes exhibited over the last decade in electronic collaboration:

- The significant reduction of organizational overhead to enable e-collaboration given the availability of Web-based tools and technologies
- The integration of existing systems and platforms with e-collaboration applications
- The increased flexibility in supporting different types of e-collaboration activities including communication, coordination and cooperation

Thus, as the papers in this issue illustrate, e-collaboration has evolved from an area focused on developing standalone tools to one focused on providing well-integrated, flexible solutions to group members working together while being apart.

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