Crossing Collaborational Divides: Digital Documents in Socio-Technical Networks

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Socio-technical research draws from the rich theoretical and applied literature that addresses the influence of technology on society and on social practices, and of social influences on the shaping of technology. Notable examples include the Social Shaping of Technology (SST) tradition, which is based on social studies of science and technology (cf. Williams and Edge, 1995), the Tavistock Institute’s Socio-Technical Systems (STS) tradition, based on the analysis of work organization (cf. Mumford, 1997; 2000), and network-centric theories from sociologists such as Latour (1987) (actor-network theory, or ANT) and Castells (1996). Network-centric approaches are particularly well-suited for examining the social and technical dimensions of IT-enabled communication, such as those that occur via email, the Internet, intranets, electronic journals, and other collaborative communication technologies. Socio-technical networks can be conceptualized as the enactment of patterns of interaction and relationship which occur between individuals, within and between organizations and institutions, and through information and communications technologies which embed, and are embedded in interactions. In these heterogeneous arrangements, what is "social" and what is "technical" cannot be readily isolated in practice.

In our view, socio-technical networks are fundamental to socio-technical studies, and information and communication technologies (ICTs) are necessary (but not sufficient) components of networked forms of social organization. The dynamics of these socio-technical networks are known to play a critical role in a number of diverse transformations, such as those that diffuse knowledge, invention and innovation from university scientists to industry entrepreneurs (and vice-versa.) Informational environments also constrain and enable collaborative interactions in such settings, and may mitigate or amplify the influence of ICTs on barriers to collaboration. Research on the use of digital documents seems particularly apt for understanding the technical, geographic, social and economic dynamics that influence communications and collaborations within and among geographically and organizationally dispersed communities-of-practice. A focus on the use of these potentially malleable technologies may reveal more clearly how ICTs are differentially shaped by networked communities and global/local informational environments.

This mini-track focuses on the social interactions that link networked information and communication technologies and communities-of-practice. Our goals for this minitrack are twofold:

1) We seek to bring together researchers who are studying the evolution of socio-technical networks and the use of digital documents; and,

2) We wish to raise awareness and stimulate further interest in the ways in which informational environments constrain and enable collaborative interactions, particularly those that span communities of practice.

In this, our first year at HICSS, the papers included in the mini-track provide an exciting range of theoretical and applied perspectives on such issues. In her paper, "New Knowledge and Micro-level Online Organization: Communities of Practice as a Development Framework," Davenport takes a socio-technical perspective to identify characteristics of online communities-of-practice and uses this framework to explore how learning and knowledge creation may occur in these micro-environments. Murphy, in her paper, "Digital Documents and Organizational Communities of Practice: A First Look," uses Wegner’s concept of community of practice to examine the role of digital documents as objects and reifications of practice and to consider the complex nature of document-supportive information technology which must support the organizational work of digital documents. At the institutional level of analysis, Lamb's paper, "Tracing Influence through Intranets of Compliance," discusses the use of intranet technology to enable collaboration across organizations, industries, and institutions to establish, maintain, or enforce industry standards; her analysis considers the external, intraorganizational influences which shape these types of ICTs, as well as internal factors that influence decisions about their application and support.