Chapter XXXVII
Computer Mediated Collaboration

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ABSTRACT

Computer-mediated collaboration is examined through the lenses of societal change and the dynamic nature of technology. Trends and contributing factors are reviewed in the context of the difference between **going to work** *and* **doing work** *and the implications for collaboration using technology to overcome distance and time. The demand to work in situations where propinquity does not define the relationship of information, resources, and managerial structure is reviewed. The confluence of social changes and new technologies is examined including the emergence of Web 2.0. Four themes are explored as subsets of computer-mediated collaboration: peer review, engaged learning, consensus building and self-re-flection. Technology applications related to these themes are addressed. There is a brief section on the future in which emerging technologies are explored as they relate to computer-mediated collaboration, especially mobile devices and other technologies that represent a merger of existing tool sets.*

INTRODUCTION

Collaboration is a critical problem solving, task resolution strategy in a broad range of contexts: business, educational settings, and community/family situations (Carnegie Corporation, n.d.; Cumbers, Mackinnon, & Chapman, 2003; IBM, 2006; Lindeke & Sieckert, 2005; National Staff Development Council, n.d.; Normark, & Esbjornsson, n.d.). It has been defined as "a process through which parties who see different aspects of a problem [or issue] can constructively explore their differences and search for solutions that go beyond their own limited vision of what is possible" (Gray, 1989, p. 5). The ability to engage in collaboration is central to working and living successfully in an information-rich environment. Collaboration is a skill with a long history in face-to-face negotiations. What is new is the evolving concept of place and time as related to collaboration. The chapter reviews what amounts to a major historical transition in the way individuals and organizations engage in collaboration to conduct business and achieve social goals. At-

tention is given to the confluence of these forces with developments in technology.

It is important to review the concepts of workplace and educational setting in terms of the 'geography' of work and school. Individual and institutional responses to needs and issues generated by the practice of computer-mediated collaboration are examined, including support for collaborative learning and computer-mediated discourse. This discussion is organized through the treatment of critical themes related to how current technologies are being used in collaboration, as well as scenarios depicting a range of possibilities, some of which have not yet been fully realized in practice.

BACKGROUND

The information model of the modern world is a sociological reality as well as a technological opportunity. One may only understand the import of technologically-mediated collaborations in the context of contemporary trends and changes at the macro levels of community and social intercourse. These changes include the evolving context of the workplace and the difference between going to work as a discreet function determined by 19th century understanding of geographical space and fixed time as compared to doing work, understood as collaboration in the construction of meaningful solutions to tasks encountered in a wide variety of contexts, and for present purposes, in the context of education and employment.

Relevant trends include growing numbers of employees telecommuting at least a few days a week. In 2005, 16 percent of the workforce in the United States telecommuted for all or some portion of the workweek ("The Battle for Brainpower," October 7, 2006). The number who telecommuted at least once a year grew from about 4 million in 1990 to 45 million in 2005, with 37 percent of reporting companies allowing telecommuting (Balfour, 2006; Gottlieb, n.d., &. Telework Coali-

tion, n.d.). The option to telecommute is a recruiting tool in today's highly competitive search for talented workers, with face-to-face interactions declining in importance as a job requirement (Greene, 2006; Gottlieb, n.d.). Organizational motivations include cost reduction and enhanced organizational emergency preparedness. Telecommuting, coupled with globalization, mergers, and outsourcing, can be expected to continue to change where and how business is done (Henschen, Stodder, Crosman et al., 2007).

In October, 2006, the British periodical, The Economist, featured "Search for Talent: Why it's Getting Harder to Find" one theme was the changing distribution of job types within organizations, with jobs viewed in three categories:

- Transformational — getting or converting raw goods into finished goods,
- Transactional — interactions that can be reduced to routine, and
- Tacit — complex interactions that require higher order thinking skills, judgments ("The Battle for Brainpower," October 7, 2006, p. 4).

The magazine reported that 70 percent of jobs created in the United States since 1998 are 'tacit,' a large proportion of which require collaboration. In a global economy, some part of that collaboration will take place via technology, not via face-to-face, meaning employees in these positions must understand and use computer-mediated collaboration.

Supervisors manage workers in different countries across different functions ("Masters of the Universe," October 7, 2006). For example, Joost, a company providing online video-sharing services, has its software developers in Estonia, computer servers in Luxembourg, and front office in London (Sparks, 2007). The ability of workers to do work together but apart figures in the need for computer-mediated collaboration. "Organizations must build expertise and establish a common

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