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Chapter II

IT Project Managers' Perceptions and Use of Virtual Team Technologies

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ABSTRACT

This chapter presents the results of a case study pertaining to the use of information and communication media to support a range of project management tasks. A variety of electronic communication tools have evolved to support collaborative work and virtual teams. Few of these tools have focused specifically on the needs of project managers. In an effort to learn how practicing IT project managers employ these tools, data were collected at a North American Fortune 500 industrial company via interviews with IT project managers regarding their use and perceptions of electronic media within the context of their work on project teams. In this study, "virtual" describes the extent to which communication is electronic rather than the extent to which team members are geographically separated. Although the number of respondents was limited, the richness of the data collected leads to the conclusion that successful project managers and teams become skilled at adapting a variety of existing communication

technologies to match the project task or process, the receiver, their own role as sender, and the content of the message. Groupware designers and developers need to better understand project management methods and best practices in order to provide better tools for practitioners, particularly as organizations expand globally and increasingly outsource various functions of their IT development and operations.

INTRODUCTION

Electronically supported communication media, ranging from telephone connections to Internet Websites to low-earth orbital satellite cellular technologies, have become increasingly available to organizations and individuals throughout the world. In addition to the straightforward opportunity to link individuals across time and geography, these technologies provide opportunities for organizations to develop new patterns of work-related interaction, even when groups are co-located.

A large number of organizations are becoming increasingly "projectized" in structure, accomplishing their strategic and tactical goals through bringing together for a fixed period of time cross-functional groups of people, whose knowledge, skills, and experiences are complementary and focused on a time-dependent set of deliverables. This approach is widely used in information technology (IT) areas, where much work is structured as a set of distinct, sometimes overlapping projects. Designing work as a set of projects allows the use of organizational learning through the application of accumulated knowledge regarding the organization of project work. It also emphasizes the creation of particular deliverables, whether computer applications, configurations of hardware, software or integrated systems, or technology-supported business processes. Project management provides a rich framework for the study of team use of communication media for performing project tasks, yet few researchers or groupware designers have focused specifically on supporting project management.

At present, many individuals use computer-mediated communication (CMC) tools, such as e-mail, on a self-directed, ad-hoc basis to support various types of work including participation on project teams. Many firms expect advances in electronically mediated communications to enable a more formal structured use of CMC tools to support the goals of project management. In addition they expect electronically mediated communications to allow for teams to coordinate work at different geographical sites. With the continued expansion of multinational operations and global IT work outsourcing (Arnold & Niederman, 2001), more IT design and programming are being conducted in projects involving individuals of multiple cultures resident at multiple locations (Carmel, 1999). These trends illustrate the continually growing importance of and critical role for technologies