Chapter 4.10
Evolving Information Ecologies:
The Appropriation of New Media in Organizations

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ABSTRACT

This chapter examines how people in organizations appropriate new computer-based media, that is, how they adopt, reconfigure, and integrate advanced communication technologies such as groupware or desktop conferencing systems into their work practice. The chapter presents and analyzes findings from an in-depth field study of the adoption and use of a Web-based groupware application—a "virtual workspace"—in a large multinational firm. The analysis focuses, in particular, on the fact that people in modern organizations have plenty of media at their disposal and often combine old and new media to accomplish their work tasks. Furthermore, it highlights the crucial role of organizational communication genres in shaping how people adopt and use new media. The authors argue that understanding and facilitating the process of appropriation is the key to the successful introduction of new media in organizations.

INTRODUCTION

This chapter provides an account of how people in organizations adopt new computer-mediated communication (CMC) technologies and incorporate them into their working practices. It focuses specifically on how people fit the new media together with their existing communication technologies, creating a configuration of media that matches their communication needs. The current proliferation of new computer-based media such as chat, SMS, instant messaging, desktop conferencing, virtual workspaces, and MOO-based meeting technologies (see, e.g., Yoshioka, Yates, & Orlikowski, 2002) exacerbates the challenges

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associated with establishing and maintaining appropriate configurations of media in the workplace. Although the potential for developing very effective patterns of media use is high, given the large number of diverse technologies to choose from, there is also a significant risk that the outcome will be messy and inefficient.

It is well documented that established organizational communication genres influence how individuals and groups adopt and use new CMC technologies (Crowston & Williams, 2000; Orlikowski & Yates, 1994; Yates, Orlikowski, & Okamura, 1999). Genres, as conventions for social interaction, both shape and are shaped by organizational members' communicative practices. When new communication media are introduced in the organization, existing genres provide people with a resource that they can draw on in their efforts to incorporate the new technology into their daily work practice. In doing so, they not only reproduce but also redefine their existing repertoire of genres.

We address these issues based on an analysis of a longitudinal field study of the adoption and use of a Web-based groupware application in a large multinational company. The analysis employs insights and concepts from two strands of research on electronic communication in organizations. The first strand is concerned with understanding the "affordances" (i.e., the distinctive communicative properties, see the next section) of different communication technologies and how these affordances affect the process, content, or outcome of communication (see, e.g., Whittaker, 2003, for an overview). The second strand comprises an emergent body of work on organizational communication genres (e.g., Grimshaw, 2003; Yates & Orlikowski, 1992; Yates et al., 1999). This research explores the complex interrelations between media and genres and sheds light on how genres evolve over time as new technologies are introduced.

THEORETICAL BACKGROUND

Technology appropriation is the process by which people in organizations adopt, reconfigure, and integrate new technologies into their work practice (Dourish, 2003). This involves not only adapting or "customizing" the technology to suit local needs and requirements, but also devising appropriate ways of using the technology for one's own, particular purposes. As Dourish (2003) points out, understanding how people appropriate new CMC technologies is a "key problem" for both researchers and practitioners, "since it is critical to the success of technology deployment" (p. 465).

Attempts to introduce new CMC technologies in organizations often fail because managers and technologists underestimate the time and effort it takes successfully to appropriate and incorporate a new communication medium into the existing "information ecology," that is, the system of people, practices, genres, and information and communication technologies in the local environment. Appropriation is difficult to achieve because information ecologies are diverse, continually evolving, and "marked by strong interrelationships and dependencies among [the] different parts" (Nardi & O'Day, 1999, p. 51). For instance, communication media, genre repertoires (that is, the set of genres in use within a community [Orlikowski & Yates, 1994]), and local work practices are interrelated and fit together in complex and subtle ways.

Change in an ecology is systemic and difficult to predict (Nardi & O'Day, 1999). Changing one element sometimes can have self-reinforcing effects that can be felt throughout the whole system, but in other instances, if the changes are incompatible with the rest of the system, they may disappear without a trace. For instance, studies have shown that, when a new electronic medium is introduced in an organization, it sometimes transforms the entire organization and the ways in which work is conducted (see, e.g., Sproull & Kiesler, 1991), whereas in other cases it may

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