Chapter 13
Engineers' Perceptions of Relational Limitations Intrinsic to Virtual Work

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ABSTRACT

Virtual work is increasingly prevalent in organizational settings. Many corporations communicate virtually to reduce travel and facility costs and expedite production. Benefits of employees communicating virtually are recognizable and advantageous, but the benefits can come at a price—decreased human interactions. This study explored engineers' perceptions of relational limitations inherent to virtual work. Engineers enrolled in a communication course who use virtual work methods on the job comprised the sample. Qualitative content analysis revealed engineers perceive virtual work as a convenient and easy-to-use medium that bridges geography, curtails expenses, expedites meetings, and allows flex time. Conversely, engineers reported several relational limitations associated with virtual work, including reduced personal interactions, diminished nonverbal cues, increased miscommunications, added interference, and weakened interpersonal skills. Engineers exercise supplemental face-to-face communication, occasional on-site meetings, and social activities to counter virtual relational limitations. A social exchange theoretical perspective explains engineers' continued use of virtual work.

INTRODUCTION

Companies and organizations have always relied upon effective communication to develop products and keep employees and corporate partners informed. Once upon a time, a company's internal and external communications were limited to personal contact, letters, memos, and newsletters. However, long are the days since employees were confined to snail mail or face-to-face encounters in order to coalesce on projects or conduct meetings. Virtual work, especially in the form of emails, conference calls, and video presentations, has bridged geographical distances in the corporate world and enabled employees to expand their interaction possibilities. Through virtual communication, companies

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have minimized physical challenges, cut costs, and expedited product outflow.

Arguably, engineers rely on virtual work more than most professions. These workers use technology consistently to research, create products, conduct meetings, connect with suppliers, and maintain communication between management and employees. The benefits offered by virtual communication cannot be denied or dismissed and have secured technology's position as a permanent and valued part of engineering. Yet, relational limitations of virtual work abound in the corporate sector. This study explored engineers' (a) motivations for using virtual communication methods and (b) perceptions of the relational limitations intrinsic to working virtually.

BACKGROUND

Interpersonal Benefits of Virtual Communication

Virtual communication is commonly perceived to facilitate task and social exchanges comparatively as well as more traditional communication forms, including face-to-face (Walther & Parks, 2002). The Internet is praised as a medium that aids in establishing and advancing interpersonal relationships. Even in the relatively impersonal environment created by online interactions, researchers assert that it is possible for communicators to form interpersonal relationships through textual and verbal cues (Walther, 1992). Testimonies abound on how virtual communication helps in creating and maintaining friendships and romantic relationships (e.g., Katz & Aspden, 1997; Lenhart, Lewis, & Rainie, 2006; McKenna & Bargh, 2000). Virtual communication, especially in the form of chat rooms, friendship-oriented websites, and support groups, allows individuals to develop new relationships with people they may never meet face-to-face (Barnes, 2006).

Virtual communication is perceived to facilitate and enhance human relationships in part by fostering a sense of social presence. Social presence "is the degree to which we as individuals perceive another as a real person and any interaction between the two of us as a relationship" (Wood & Smith, 2001, p. 72). Social presence implies that the virtual environment can be viewed similarly to the physical environment. In other words, the virtual environment permits individuals in remote locations to feel connected and physically present with one another. Consider a company's representative visiting a partner corporation in another country. The representative gathers data and needs to report back to her company constantly with the latest updates. Technologies, such as email, on-line chat, and conference calls can give the representative social presence by keeping her virtually connected to the home company while physically present at another location, even one outside the country.

An additional benefit of virtual work is its ability to enable socially reticent individuals to develop, build, and enhance their interpersonal skills by removing the social pressures of immediate face-to-face interactions. Introverted and individuals high in communication apprehension can use mediated means to express themselves and contribute to group discussions that they may otherwise view as uncomfortable and intimidating. This virtual benefit is commonly experienced in college classrooms with some introverted students preferring to email their professors rather than communicate in face-to-face situations (Barnes, 2006). In a sense, technology allows socially reticent individuals to share thoughts and ask questions in a shielded environment not available in person-to-person situations.

As an added benefit, virtual technology represents an asynchronous communication tool. In our fast-paced and multi-tasking corporate world, individuals are not always available at the same time for face-to-face interactions, even if they work in side-by-side cubicles. Thus, the atemporality