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Creating an effective training environment for enhancing telework

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There is a growing need for research examining the effective implementation and management of teleworking as it is increasingly being used as an organizational work structure. The enhanced functionality of many information technologies facilitates the completion of work across geographically dispersed teleworkers while simultaneously providing a vehicle to overcome social isolation that has been viewed as an inhibitor of teleworker effectiveness. This research assesses two training methods that can be used to help teleworkers develop skill sets for using these technologies. The results suggest that using a game-based training method facilitates the training process by increasing users' intrinsic motivation resulting in increased intention to use the technology. This can be particularly important in enhancing the effective completion of team and individual telework while at the same time providing a mechanism to minimize teleworkers social isolation.

KEYWORDS: game-based training; intrinsic motivation; telework.

1. Introduction

Since the 1970s researchers have been examining the phenomena of telework (e.g. telecommuting, satellite offices, remote work, mobile workers, etc.) (Martin & Norman, 1970). Recent advances in information technology have facilitated the growth of telework as an organizational work structure with significant increases in the number of teleworkers occurring in the last decade (Apgar, 1998; Hill, Miller, Weiner & Colihan, 1998). Technological support for telework has evolved from remote access of limited corporate-based information to email to technology-mediated meetings to today's telework environment that can consist of complete access to corporate files on remote machines and multipoint conferencing. Furthermore, emerging technologies support synchronous and asynchronous remote communication for both individual and team/project activities facilitating communication and cooperation (Hightower, Sayeed, Warkentin & Mchaney, 1998). Thus, today's technologies are creating opportunities for employees and organizations to effectively span geographical boundaries.

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Effective technology training for teleworkers has been identified as one of the critical factors underlying telework success (Kinsman, 1987; Webster & Martocchio, 1995; Raghuram, 1996; Donaldson & Weiss, 1988). A growing body of literature assessing effective methods for training users to use various technologies has evolved (e.g. Olfman & Bostrom, 1991; Webster & Martocchio, 1993; Olfman & Mandviwalla, 1994; Compeau & Higgins, 1995). Although these methods vary, they share a belief that users must be motivated to use a technology resulting in the perspective that perceptions regarding a technology drive that behavior (e.g. use of a technology) (Davis, Bagozzi & Washaw, 1989, 1992). This research proposes an innovative method to address the challenges associated with both minimizing the negative influence of social isolation and increasing the effective training of telework technologies. Thus, the current research proposes a new training method to enhance users' perceptions of emerging telework technologies. Specifically, a field experiment was conducted to assess the effectiveness of a game-based training method that allows users to first interact with each other in a non-work-oriented (game-oriented) setting that will help them feel more comfortable with one another and the new technology. Users' reactions to the technology following such a game-based training were compared to the reactions of their counterparts who underwent traditional lecture/hands-on training.

2. Teleworking

The corporate use of teleworking (e.g. work or parts of work that occur away from a corporate location, often in an employee's home (Korte & Wynee, 1996) has increased significantly as companies have gravitated to flatter organizational hierarchies, increased emphasis on global organizations, and a constant eye toward reducing overhead (Johnson, 1997). Estimates of the number of teleworkers vary; however, eight million Americans worked from their homes in 1993 (Bredin, 1996) and in 1997 the number of US based teleworkers was estimated to be somewhere between 11.1 million (Hill *et al.*, 1998) and as many as 40 million (Apgar, 1998). Future forecasts project that telework will involve 10–15% of the workforce in many developed countries (Korte & Wynee, 1996) and 90 million people worldwide by 2030 (Wilkes, Frolick & Urwiter, 1994).

Although these teleworking forecasts paint a very optimistic picture, many prior prognostications were clearly off base as evidenced by Mullner's (1985) estimate that 40% of US employees would be teleworking by 2000. Therefore, it appears that there is a growing reliance on teleworking; however, this growth has not occurred as quickly or penetrated organizations as deeply as anticipated (Korte & Wynee, 1996; Pliskin, 1998), suggesting that there are some potential inhibitors to this work structure.

From an organizational perspective, benefits of telework include reduced costs (e.g. office space), decreased employee absenteeism and turnover, increased employee morale and productivity, and the ability to access a broader pool of employees as the geographic tie to an "office" are diminished (Wilkes *et al.*, 1994; Johnson, 1997; Donaldson & Weiss, 1998; Hill *et al.*, 1998; Watson Fritz, Narasimhan & Rhee, 1998). Employees cite benefits of reduced stress (e.g. no commute or interruptions), greater flexibility in balancing their family and work lives, and greater job satisfaction (Johnson, 1997; Wilkes *et al.*, 1994). The environment is also benefited by increased telework as there are fewer workers

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