An Adaptive Workforce as the Foundation for E-Collaboration

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INTRODUCTION

E-collaboration technologies have transformed the "world of work" as we know it today. These technologies are undeniably the predominant factor facilitating the globalization of business, and they have transformed the fundamentals of interpersonal interaction within and across organizations. Given the tremendous changes being imposed by e-collaboration technologies, we must consider the subsequent changes being elicited at the individual (or human) level. In other words, how are the users adapting not only to the technologies themselves, but to the new world of work the technologies have created?

The changes emanated from technology have been so immense that they have shifted the business world off its traditional axis. Technology has served to fundamentally transform business processes. One of the largest areas affected by technology has been the very core of business: the communication and collaboration practices of organizations. When an area so fundamental to business has been altered drastically, we must consider how this transformation has permeated throughout all areas of the business world. Moreover, understanding the breadth of influence technology has on the nature of work and adapting all levels of business accordingly will allow us to extract the benefits and avoid the hazards associated with technology and the change it has enabled. Unfortunately, such understanding and coordination is a daunting goal. We propose that establishing an adaptive workforce is an essential first step to achieving this goal.

In support of our proposition, the following article will begin with examples of diverse areas of business that have been impacted by e-collaboration and illustrate how adaptability provides the underlying theme uniting the changes that are occurring. Then, focusing on individual adaptability, we will present a relevant performance model to be implemented in organizations. Based on this performance model, we will illustrate how organizations can begin to establish an adaptive workforce that will serve as the foundation for effective e-collaboration.

BACKGROUND

A large majority of collaboration efforts in organizations today are conducted via electronic technology (e.g., video conferencing, Web-based chat tools, e-mail, group decision support systems, etc.). Such technologies are collectively referred to as e-collaboration technologies, and e-collaboration is collaboration among individuals engaged in a common task using electronic technologies (Kock & Nosek, 2005). Many organizations have implemented e-collaboration technologies as part of their standard business practices but have overlooked the impact these technologies can have on the users and on the nature of work itself. For example, many organizations fail to see the changes that occur in collaboration when switching from face-to-face to e-collaborative modalities. They assume similar efforts and results will occur and the collaboration is simply conducted via an alternative medium. However, there

is an abundance of research indicating a substantial affect on collaboration efforts depending on the medium adopted (e.g., Becker-Beck & Borg, 2005; Jarvenpaa & Leidner, 1999; Kock, 2001; Ritter, Lyons, & Swindler, 2006; Straus, 1997).

There are a variety of effects on both perceptions and performance that are associated with the implementation of e-collaboration systems. These effects can be negative, neutral, or positive. For example, the use of e-collaboration can be neutral if the same level of use and similar results occur as with face-to-face collaborations. On the dark side, the use of e-collaboration can negatively affect users' perceptions and ultimately their performance if users are uncomfortable with the medium and avoid its use. Furthermore, researchers (e.g., Ritter et al., 2006) have identified specific performance barriers inherent to e-collaboration technologies, and there must be a concerted effort to address these barriers if e-collaboration is to be effective. However, e-collaborative technologies have the potential to increase productivity in organizations. In order to attain the positive effects associated with the technologies, organizations must anticipate the system-wide influence (e.g., at the organizational, technology, and human levels) the technologies will have.

THE PROLIFERATING IMPACT OF E-COLLABORATION

Adopting a dynamic systems view (Ashby, 1947), we see that nothing in an organization occurs in a vacuum. Innumerable interactions and reciprocal relations characterize all that we do. At the individual level for example, we cannot understand the full impact of technologies if we consider only the direct influence the technologies have on individuals and ignore the indirect influence. Individuals are impacted indirectly through technology-enabled transformations at higher levels of work (e.g., globalization). Essentially, we must consider both the bottom-up and top-down effect of these technologies. Indeed, the impact of communication technologies can reach far beyond the original intent of the designers or of those implementing the technologies (Cameron & Webster, 2005). A systems perspective helps us understand this impact by acknowledging the interrelatedness of levels in an organization. To illustrate, we will discuss three of the paramount, and interrelated, areas of change that have occurred in connection with e-collaboration technologies, focusing on the impact at the individual level. These three areas of change clearly do not provide an exhaustive list but serve as an overarching descriptive framework.

1. **Globalization:** E-collaboration technologies have enabled an unparalleled degree of connectivity among businesses. This connectivity is a primary contributor to the increased globalization of business (Cheng, Love, Standing, & Gharavi, 2006). As the boundaries of business stretch across continents, the reliance on e-collaboration technologies proliferates to the point of necessity. Individuals within the globalized business world must be flexible and adaptable to changing markets and brutal competition. Again, this creates a reliance on e-collaboration technologies as they are vital to sustain a competitive advantage within the global marketplace (Cheng et al., 2006; Hesketh & Neal, 1999). The individuals employed by these global companies must learn to collaborate with people of different cultures, and do so via e-collaboration technologies in a distributed and highly dynamic environment. Moreover, individuals interacting across the globe are often faced with multilingual challenges and cultural clashes (Sutton, Pierce, Burke, & Salas, 2006).
2. **Interpersonal interaction:** The *type* of connectivity (e.g., computer mediated) afforded by e-collaboration technologies has transformed the rudiments of interpersonal interaction. Researchers have found a plethora of interpersonal processes and outcomes affected (positively and negatively) by the use of various forms of e-collaboration: conflict and affect management, motivation and confidence building (Maruping & Agarwal, 2004); degraded positive collective efficacy, reduction of self-awareness and feelings of anonymity (Cuevas, Fiore, Salas, & Bowers, 2004); equality of influence across status and expertise (Dubrovsky, Kiesler, & Sethna, 1991); delays in formation of interpersonal trust (Jarvenpaa & Leidner, 1999) as well as team cohesion (Straus, 1997); information loss (Becker-Beck & Borg, 2005). See Wainfan and Davis (2004) for an extended review of factors affected by mediated-communication. Many of the aforementioned factors are interrelated and all are based on interpersonal interaction. However, beyond noting the