

## Chapter 7.7

# Understanding Effective e-Collaboration through Virtual Distance

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### INTRODUCTION

Virtual distance is a multidimensional perceptual construct resulting from key elements that promote a sense of distance in e-collaborative work environments. Why will virtual distance help to uncover some of the potential downside risks of collaboration using virtual and outsourced resources? Research has shown that the perceived distance between two or more individuals has negative effects on communication and persuasion and promotes a tendency to deceive more than those who do not perceive themselves to be as distant (Bradner & Mark, 2002). Virtual team members and work groups are, by definition, distant from one another, not only in the physical sense but in other ways as well. Socio-emotional factors, for example, can play a role in perceived distance and these factors may contribute to decreased success (Barczak & McDonough, 2003).

The virtual distance model (VDM) was developed after conducting an extensive literature review and combining findings from that effort with executive interview information collected over the course of the first 18 months of this research. The model was tested using a multi-step research method including surveys and follow-up interviews with key executives from a sample of corporations leveraging virtual workspaces.

### BACKGROUND

While the notion of distance is, by definition, at the heart of virtual team studies, most of the literature has focused on geographic and temporal factors. Virtual teams (VTs) are those defined as having members that are geographically separate, often with vast distances between one another (Alavi, 1994; Townsend, DeMarie, & Hendrickson,

1998; Majchrzak, Malhotra, Stamps, & Lipnack, 2004). Therefore, the idea that physical distance plays a role in VT behavior is well established. However, research also shows that other variables can contribute to a sense of socio-emotional or psychological distance. Interpersonal, social, organizational, and technical factors also play a role and have important implications for the attitudes and behavior of team members and their ability to succeed (Bradner & Mark, 2002). These factors can include, but are not limited by, building trust and motivating one another, cultural diversity and lack of goal clarity (Barczak & McDonough, 2003). Collaboration, whether it is face-to-face (FtF) or computer mediated, occurs within a much broader context than simply geographic and temporal dispersion. So there is reason to expand the research beyond physical distance constructs. One of the basic assumptions of this thesis was that the use of geographic and temporal distance constructs alone, are not enough to explain performance differences among teams in the 21<sup>st</sup> century. Instead, it was posited that the construct of distance for VTs be expanded to include socio-emotional distance factors as well.

As Stephen Roach wrote, “it is time to let go of some of our time-honored relationships” (Roach, 2005). While he was referring to macro-economic relationships, the sentiment applies to micro-economic relationships as well, including virtual teams and globally distanced workforces. A paradigm shift in thinking is required to do so and a new, unifying and parsimonious framework is needed to open up the black box that sits between virtual work and performance outcomes; one that reflects the integrative and multi-dimensional nature of the complex interplay of both real and perceived issues at the individual and group level. The development of such a model was the purpose of this thesis and the resulting model has been named, the virtual distance model (VDM).

The model was developed through a review of the major research streams primarily in management and technology, combined with some central

tenants of the theories of distance, social science, and psychology. In addition, an initial set of field studies was conducted, in the form of executive interviews, to ground the theoretical discussion in real-world terms as perceived by leaders at major, global organizations.

## **FACTORS INFLUENCING DISTANCE**

Based on a review of management, information systems and psychological literature, a number of socio-emotional distance factors that influence team members were identified. These include spatial, temporal, technical, organizational and social factors that shape the perceptions of individuals engaged in e-collaborative work. In the present investigation these factors were reviewed in terms of how they collectively impacted work related attitudes, behavior and performance. Eleven factors likely to influence the perceptions of distance between team members are discussed in the following sections (see Figure 1).

### **Geographic Distance (GD)**

Research suggests that physical separation or closeness is of great importance to interactions and that the closer one is physically to another, the greater the chance to form social ties (Latane & Herrou, 1996). Physical distance also impacts the tendency to deceive, ability to influence, the likelihood of cooperation (Bradner & Mark, 2002), and has been shown to have some impact on learning behavior (Latane & Bourgeois, 1996; Bulte & Moenaert, 1998; Arbaugh, 2001; Bradner & Mark, 2002; Coppola, Hiltz, & Rotter, 2002).

### **Temporal Distance (TD)**

Differences in time zones between VT members are often cited as one of the factors that plays a role in VT interactions (Jarvenpaa & Leidner, 1998; Montoya-Weiss, Massey et al., 2002; Massey,

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