



## **Chapter 14**

# **Ad Hoc Virtual Teams: A Multi-disciplinary Framework and a Research Agenda**

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## **INTRODUCTION**

Virtual arrangements are proposed as a way for organizations to face the challenges of the upcoming century and to operate both efficiently and innovatively (Bleecker, 1994; Jarvenpaa & Ives, 1994). Information and communication technologies (ICT) serve as powerful enablers of virtual organizing in the form of various intra- and inter-firm arrangements (Knoll & Jarvenpaa, 1995). Among other emerging arrangements, virtual teams, both within and across organizations, are relatively recent phenomena brought about in part by the emergence of technologies such as electronic mail, Internet, groupware and videoconferencing (Barnatt, 1995; Iacono & Weisband, 1997; Lipnack & Stamps, 1997). The reluctance of many workers to relocate for a new job, the global nature of the marketplace, the need to complete projects as quickly as possible, and the need to tap the best brains no matter where they may be, are all examples of drivers of virtual teams within and across organizations (Geber, 1995; Duarte & Snyder, 1999; Lipnack & Stamps, 1997).

According to some researchers and practitioners, virtual teams are a benefit as well as a necessity for companies, and are bound to become more prevalent (Bozman & Ellis, 1993; Gorton & Motwani, 1996; Lipnack & Stamps, 1997). Anecdotes concerning the success of virtual arrangements have received considerable attention in the popular press. This literature typically claims that ICT form the basic foundation for the creation and management of virtual teams or organiza-

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tions (Barnatt, 1995; Henry & Hartzler, 1998; Jarvenpaa & Ives, 1994). Despite widespread interest in virtual models and their importance for both the professional and scientific communities, this topic has been largely overlooked by business scholars. To date, studies on virtual arrangements have focused mainly on the concept of telecommuting (e.g., Gray, 1995; Nilles, 1994) and most articles have been anecdotal in nature. Given the lack of empirical evidence in this area, there is a pressing need for *rigorous conceptual work* to examine virtual team functioning and success.

As a preliminary step toward *theory building*, this chapter contributes a conceptual framework for future research on virtual teams. Our endeavor is in line with the recommendation of McGrath & Hollingshead (1994) to the effect that studies on groups and technology should be planned using a comprehensive framework. As presented in detail later, our framework builds upon and integrates the various constructs and variables of complementary research frameworks and models from the fields of organizational behavior and small group dynamics, project management and management information systems. The resulting integrative framework provides a useful guide for the development of a research agenda on virtual teams.

But who are these teams? A virtual team, like any other team, is a group of people who interact through interdependent tasks guided by a common purpose. Unlike conventional teams, a virtual team works across space, time, and organizational boundaries, with links strengthened by webs of communication technologies (Lipnack & Stamps, 1997). In other words, virtual teams are globally distributed teams, i.e., teams in which personnel, resources and work may be dispersed over multiple, geographically separate work sites. Further, they may be intact workgroups that work together indefinitely (permanent team) or they may be groups brought together for a finite time to tackle a specific project (ad hoc team). The comprehensive framework developed in this chapter focuses on ad hoc virtual teams.

## LITERATURE REVIEW

As a preliminary step towards theory development, we find it is useful to build a conceptual framework of the research problem at hand. The framework should consider the full panoply of variables that are potentially relevant to the functioning and effectiveness of ad hoc virtual teams, and should place them in functional relation to one another.

### **A small group dynamics perspective**

Small groups, work groups and, more recently, teams have been studied extensively by social scientists (e.g., Hare, 1992; McGrath, 1964; Shaw, 1976).

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