Chapter 12
Dimensions of Team Distribution within a Software Team

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ABSTRACT
This chapter broadens the definition of distributed teams to include facets beyond geographic, cultural, and organizational boundaries. Through the example of a typical software development team and its version control process, it shows how varying the ability to share network resources adversely affects collaboration. This network connectedness dimension of variability is solved through progressive adoption of newer tools and techniques, which in turn have unexpected strategic benefits beyond solving the immediate need. From this example, a pattern is extracted that can be applied to any team by identifying a dimension of distributedness, implementing solutions, and capitalizing on those solutions.

INTRODUCTION
Typical Dimensions of Distributed Teams
We usually define a distributed team as one whose members are separated by distance, such as when team members are in different countries. We assume the distribution is either in (a) time, (b) distance, (c) culture, or some combination of these aspects.

Distributed teams have grown dramatically in recent decades accompanying a broader globalization of industry, decreasing hierarchical management barriers, and cross-organizational collaboration using virtual and often dynamically formed teams. Distributed teams have even pierced our popular consciousness. In the popular book The World Is Flat Friedman (2007) links the rise in globalization to a stark rise in telecommunications infrastructure spawned by the dot-com boom and by a simultaneous rise in affordable worldwide travel. Technological advances have dramatically lowered the obstacles to distributed teams and "businesses and multi- and international
organizations are assembling teams of experts who work together and participate in projects while remaining physically dispersed in geographically distributed locations” (Evaristo, Scudder, Desouza, & Sato, 2004, section 1).

Literature on distributed teams addresses the communication and managerial challenges that arise from such physical disconnection. Jarvenpaa and Leidner (1999) identify ways to improve communication and trust that dispersion usually damages, but limit their analysis to dispersion in time, geography, and culture. Others assess management challenges generally (Hertel, Geister, & Konradt, 2005), offer specific coping strategies for distributed teams’ communication conflicts (Hinds & Bailey, 2003), and techniques for measuring effectiveness of distributed groups (Maznevski & Chudoba, 2000).

Indeed physical distance and the resulting communication challenges are so pervasively assumed that researchers often burrow exclusively into communications solutions alone. Some address broad communications issues (Powell, Piccoli, & Ives, 2004), while others examine niche solutions like web-based conferencing as stepping-stones toward virtual team nirvana (Warkentin, Sayeed, & Hightower, 1997). The rise in distributed teams is predictably accompanied by a veritable boon in new software and infrastructure promising to meet the challenge. A number of silver bullets are just inches away from slaying the distributed team beast.

Atypical Dimensions of Team Distribution

What are we missing by so narrowly defining distributed teams? Are there other dimensions or defining characteristics that need to be equally solved for a virtual team to reach its full potential? Can we examine distributedness in aspects beyond geography and culture?

Some authors address the dimensionality of distributed teams in an attempt to add formal-
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