

## Chapter 14

# Designing Collaborative Infrastructures to get Business Value from Collaboration in Large Scale Networks

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### ABSTRACT

*Collaboration is playing an increasing role in business especially given an increase in business networking. Such networks are formed to gain business advantage by combining expertise from many businesses or organizational units to quickly create new and competitive products and services. Most processes in business networks now consist of a number of activities whose processes must be coordinated to reach enterprises goals. This chapter addresses ways of supporting such activities using technology and proposes a collaboration infrastructure that encourages collaboration and sharing of knowledge across the activities.*

### INTRODUCTION

Collaboration and use of technology are now generally recognized as necessary to improve business processes. For example (Hansen, Nohria, Tierney, 1999) described a system, which reduced the preparation of response documents from 4 to 2 months in consulting organizations. Another case quoted as an example was where a supplier could quickly respond by supplying valves to a car manufacturer (Evans and Wolf, 2005). This occurred when a Toyota plant supplying components burnt

down, arrangements were quickly made with other suppliers to supply the parts and restore operations within 4 days of the fire. Kodama (2005) also describes the role of strategic communities in strategic planning. Another obvious example here is emergency response systems (Jacobs, 1998) that must quickly respond to rapidly emerging situations. In business processes there are also situations that require response. Examples can be falling market share, a new competitor or opportunity provided by a new technology.

The general consensus is that enterprises must become agile and quickly respond to emerging situations in creative and innovative ways. The emphasis

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on collaboration is also expounded in research such as that of Evans and Wolf, who in their 2005 article to the Harvard Business Review describe the kinds of results that can be achieved by teams working together on focused goals. Although not commonly found in business the idea of bringing people together quickly to address problems is gaining attention. It sees evolving collaboration between organizational units that were sometimes seen as silos to collaboration across firms to form a business web. Agility and innovation in turn require ways to support knowledge workers (Davenport, 2005) within the organization to use their collective knowledge to quickly provide innovative solutions. Knowledge workers develop ideas, make plans, negotiate arrangements and do a myriad of other things to create innovative solutions. All these activities are collaborative in nature. Collaboration is essential to facilitate knowledge sharing and improve the quality of any solutions, as well as reducing the time to produce these solutions. The goal here is to bring all the necessary information to groups of people who can then make the necessary decisions.

Benefits from collaboration are particularly possible in processes that are knowledge intensive (Grant, 1996). Such processes require people to deal with increasingly complex situations that require a quick response. There is also a general view that technology can support and facilitate collaboration. However, at the same time using technology for collaboration is still quite challenging. Most technical support systems are based on preprogrammed activities whereas collaboration is often emergent and requires support systems that can evolve as collaboration evolves. Furthermore, such emergence is initiated by knowledge workers themselves rather than by information technology professionals. Process emergence characterizes what is known as Enterprise 2.0 (McAfee, 2006). It is perhaps fair to say that Enterprise 2.0 sets a direction rather than a concrete structure. Enterprise 2.0 was introduced by McAfee (2006) in his article in the Sloan Management Review

as a natural trend towards obtaining additional competitive advantage by using the new technologies available through Web 2.0. It sees a business environment where collaboration extends from groups and individuals to organizational units and whole enterprises and uses Web 2.0 technologies as facilitating such growth.

The question, however, is how collaboration can leverage technology in ways that adds business value and leads to competitive advantage. This applies especially when we go beyond small teams working on well defined projects, such as preparing a document to support enterprise wide collaboration. Large scale collaboration requires planning of work processes and maintaining context and awareness between such units. It also requires the sharing on any created knowledge during the process. This paper proposes that enterprises need to consider the development of what are called here collaborative infrastructures to get the benefits of collaboration.

## **COLLABORATIVE INFRASTRUCTURES**

The kind of architectures increasingly required to support knowledge workers is shown in Figure 1. The major components in Figure 1 are:

Knowledge workers, who carry out analytic work through workspaces that provide the information and communication needed in collaboration;

Corporate transaction systems that are repositories of everyday transactions. These are usually structures and follow well-defined processes and use the software is provided by vendors.

Workspaces for analytic work that are flexible in the sense that they can be reconfigured to solve emerging problems;

A collaborative infrastructure that allows knowledge workers to collaborate and create new knowledge. It is made up of collaboration software and a collaborative database, which

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