

Chapter 15

The Business Value of E-Collaboration: A Conceptual Framework

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INTRODUCTION

This article presents a conceptual framework of the business value of e-collaboration. In the past decade, firms have increasingly implemented collaborative technologies to support business activities, and investments in collaborative technologies have taken an increasing share of firms' e-business investments. Presumably, such investments have been motivated by the notion that the implementation of collaborative technologies has business value. While research has repeatedly demonstrated the individual- and group-level impacts of collaborative technologies, it has rarely addressed their impacts at the organizational level and demonstrated their business value. In this article, I draw on three strategic management frameworks—the resource-based view of the firm, the knowledge-based view of the firm, and the dynamic capabilities perspective—to describe how specialized knowledge assets can be integrated through collaborative processes to create

and sustain a competitive advantage. I then use this conceptualization as a platform for defining the organizational roles of collaborative technologies and the potential impact of each role on organizational performance. The main objective of this article is to provide a conceptual framework for researchers and practitioners who are interested in investigating and understanding the organizational impacts of collaborative technologies.

BACKGROUND

Resource- and Knowledge-Based Views of the Firm

The resource-based view of the firm (Barney, 1991) argues that heterogeneity and immobility of firm resources can provide a basis for superior competitive performance. Firm resources that are strategically valuable and heterogeneously distributed enable firms to outperform the competition. However, such

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a competitive advantage cannot be sustained if competitors can acquire strategically equivalent resources to implement the same valuable strategy. Therefore, for a firm to sustain its competitive advantage, its valuable and rare resources should not be open to imitation or substitution.

The knowledge-based view of the firm (Grant, 1996; Kogut & Zander, 1996; Nonaka, 1991) extends the resource-based view by defining organizational knowledge as a valuable subset of firm resources. The knowledge-based view perceives a firm as a knowledge-creating entity; it argues that the capability to create and utilize knowledge is the most valuable source of the firm's sustainable competitive advantage (Nonaka, Toyama, & Nagata, 2000). Specialized, firm-specific knowledge resources are those that are valuable, scarce, and difficult to imitate, transfer, or substitute. By using such resources, a firm could gain an advantage in its markets that competitors would find difficult to overcome.

Applying Grant's (1996) view of coordination mechanisms, e-collaboration is conceptualized here as a group coordination mechanism. Kock, Davison, Wazlawick, and Ocker (2001) define e-collaboration as "collaboration among individuals engaged in a common task using electronic technologies" (p. 1). This definition encompasses different types of systems, ranging from computer-mediated communication (CMC), through group decision support systems (GDSS), to Web-based collaboration tools (Kock & Nosek, 2005). Nonetheless, researchers agree that e-collaboration tools are vehicles for information and knowledge sharing that transcends traditional limitations of time and space. Therefore, compared with traditional coordination mechanisms, e-collaboration is a group coordination mechanism with wider capabilities because it enables and facilitates the work of *virtual* groups, giving firms extra degrees of freedom in establishing and managing knowledge-sharing mechanisms.

Dynamic Capabilities Perspective

The dynamic capabilities perspective (Teece, Pisano, & Shuen, 1997) is an extension of the resource-based view to dynamic markets. It has evolved to account for the deficiencies of the resource-based view in explaining how firm resources are developed and renewed in response to shifts in the business environment. The resource-based view identifies a subset of resources as a potential source of competitive advantage. However, this is a static view of the relationship between firm resources and competitive advantage. When change occurs in the business environment, firm resources should evolve to enable new and innovative forms of competitive advantage. By adopting a process approach, the dynamic capabilities perspective argues that dynamic capabilities are the process mechanisms responsible for the continuous development of resources in the face of rapidly evolving strategic needs.

By viewing specialized, firm-specific knowledge resources as a strategic asset and e-collaboration processes as a dynamic capability, I propose that e-collaboration is a potential source of competitive advantage, because of its ability to foster organizational change and innovation. In rapidly changing business environments, knowledge assets that have enabled superior competitiveness can quickly lose their strategic relevance, calling for the fast identification and utilization of novel, possibly tacit and distributed knowledge bases to maintain a favorable market position. In these situations, e-collaboration can provide a unique mechanism for the persistent identification, organization, integration, and utilization of knowledge assets. By creating webs of collaborations among various business segments, firms are able to generate new and synergistic resource combinations (Eisenhardt & Galunic, 2000). The dynamic capability of e-collaboration enables the frequent introduction of organizational innovations, which, in turn, can provide a source of sustained competitive advantage.

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