

Governance Mechanisms for E-Collaboration

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INTRODUCTION

E-collaboration, defined as “collaboration among individuals engaged in a common task using electronic technologies” (Kock, Davison, Ocker, & Wazlawick, 2001), is increasingly gaining relevance at the interorganizational level because of the growing practice of working with dispersed project teams across the globe. E-collaboration links together partners on projects and business processes that cross legal boundaries, as is the case, for example, in supply chains and in product lifecycle management (PLM) teams. General purpose computer-based collaboration tools like the Internet, e-mails, instant messaging, discussion boards, groupware, portals, blogs, and wikis are commonly used for e-collaboration (Fichter, 2005), while task-specific tools exist for many interorganizational activities such as PLM or collaborative planning, forecasting, and replenishment (CPFR).

A primary purpose of interorganizational e-collaboration is sharing of information among business partners to attain predetermined objectives. However, sharing information can be risky as other partners in the relationship may behave opportunistically, having gained access to sensitive information or intellectual property. To facilitate information sharing and succeed in e-collaboration, firms engaged in partnerships need to agree on a common governance mechanism—a set of responses to conditions of uncertainty, dependence, and opportunism that exists in a business relationship (Alvarez, Barney, & Douglas, 2003; Heide, 1994). Trust, bargaining power, and contracts are three important governance mechanisms that shape interorganizational relationships and operational performance (Alvarez et al., 2003).

This article discusses the role of these three governance mechanisms (trust, bargaining power, and contracts) in support of information sharing in an e-collaboration environment. The operational performance of a collaborative team will be dependent on how

effectively the members in the team share information and coordinate their activities. To allay the fears associated with sharing sensitive information, firms participating in the collaborative effort can manage their business relationships by introducing appropriate governance mechanisms. The following sections will describe the three governance mechanisms and discuss the interdependencies among them.

BACKGROUND

Information Sharing

Sharing information enables partners to integrate shared activities and improve their collective performance (Lee, Padmanabhan, & Whang, 1997; Lee & Whang, 2000; Simatupang & Sridharan, 2002; Yu, Yan, & Chang, 2001). Information sharing leads to many real benefits within a relationship. For example, in a supply chain setting, it can help to reduce the bullwhip effect, cut stock levels, reduce the cash conversion cycle, help to locate weak partners in the chain, provide cost savings, utilize unused capacity of other chain partners, enable risk taking and postponement, and so forth (Lee et al., 1997; Yang, Burns, & Backhouse, 2005). There are many attributes of information that must be considered when partners determine the nature and quality of a relationship. These attributes tend to have a dramatic impact on the ability of the collaboration to succeed in their cooperative effort. These attributes include: accuracy, understandability, relevance, timeliness, accessibility, completeness, appropriate amount, reliability, ease of use, degree of electronic integration, mode of data transfer, frequency of information sharing, and the cost of sharing information (Davis, 1989; Epstein & King, 1982; Fedorowicz & Lee, 1998-99; Gendron, Shanks, & Alampì, 2004; Wang & Strong, 1996; Zahedi, Pelt, & Song, 2001).

In addition to ensuring that the information being shared itself meets the needs of the individuals and organizations on a project team, those setting up a relationship must also manage the inherent risks associated with sharing information (Handfield & Bechtel, 2002). These risks include the potential for losing control over strategic information, identifying others' weaknesses, sharing competitive data, and using information to interfere with others' business processes.

To reduce such risks and succeed in information sharing, firms in the partnership need to agree on a common governance mechanism that will direct their relationship. Interfirm governance mechanisms, considered collectively, serve as a strategic response to conditions of uncertainty and dependence that exist in any business relationship and work towards reducing the threat of opportunism in an exchange (Alvarez et al., 2003; Heide, 1994). The presence of governance mechanisms in interorganizational partnerships also positively affects their collective performance (Dyer, 1996; Saxton, 1997; Zaheer, McEvily, & Perrone, 1998; Wathney & Heide, 2004). Such mechanisms are used for initiating, maintaining, and terminating business relationships (Heide, 1994). We will discuss three types of governance mechanisms in the remainder of this article. These are trust, bargaining power, and contracts (Alvarez et al., 2003; Dyer, 1996; Dyer & Chu, 2003).

Trust

Trust provides a foundation for collaboration (Kramer, 1999; Komiak & Benbasat, 2004; Rousseau, Sitkin, Burt, & Camerer, 1998; Whitener, Brodt, Korsgaard, & Werner, 1998) and is an important factor in determining the success of many business relationships (Jones & George, 1998; Paul & McDaniel, 2004; Scheer & Stern, 1992). Trust is defined as a psychological state that rests upon the expectations and beliefs of one party that another party will act in a certain manner, given that the trusting party is in some way vulnerable under conditions of risk and interdependency to actions by the other party (Sako, 1991; Sako & Helper, 1998). It is a complex construct that applies both to individuals (e.g., customers, Internet users), groups of individuals (e.g., communities of practice), companies, industry groups, political entities, and multi-organizational partnerships (Kramer, 1999; Sako, 1991; Sako & Helper, 1998; Svensson, 2001, 2004). There are many types of trust that can be applicable in an interorganizational

relationship setting. Four of the most relevant include calculative, competence, integrity, and predictability trust (Komiak & Benbasat, 2004; Newell & Swan, 2000; Paul & McDaniel, 2004). Calculative trust is an ongoing, market-oriented, economic calculation where each party assesses the benefits and costs to be derived from creating and sustaining a relationship. Competence trust is the ability of a party to perform a task that it claims it can perform and that covers technical, operational, human, and financial abilities. Trust in integrity is the belief that a trustee makes good faith agreements, tells the truth, and fulfills promises. Trust in predictability is the truster's belief that a trustee's actions (good or otherwise) are consistent enough that the truster can forecast them in a given situation. Each type of trust, as discussed, applies to different aspects or lifecycle phases of an interorganizational relationship.

Bargaining Power

The bargaining power of a firm gives it the "ability to bring about cost-free, intended changes in a (partner's) behavior" (Ramsay, 1996, p. 129). It is difficult to quantify, as it is a subjective concept. There are various sources of bargaining power (Cho & Chu, 1994; Cool & Henderson, 1998; Handfield & Bechtel, 2002; Lusch & Brown, 1982; Malony & Benton, 2000; Scheer & Stern, 1992). Bargaining power develops due to a partner (member) exerting control over critical resources and processes; when a member constitutes a large proportion of business for its partner; when it controls the largest share of the total value added to the final product or project; when a partner owns critical expertise or information; or when one partner has the ability to mediate punishments and rewards. Handfield and Bechtel (2002) contend that partners often possess power without exerting it. In fact, a stronger relationship emerges between the collaborators over time if member parties limit their exercise of power.

Contracts

As a governance mechanism, contracts help parties to delineate each others' authority and responsibility, and include actions to be performed and redress mechanisms. This governance mechanism encourages information sharing by formally minimizing risks. Risk is minimized by imposing penalties for opportunistic behavior (Barney & Hansen, 1994). According to Rox-

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