Extended Enterprise Integration vs. Market B2B Integration

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INTRODUCTION

The human communication processes that are involved in analyzing and designing a business and in designing, implementing, and maintaining information systems are affected by the fact that the information technology (IT) department of one company nowadays has to create software to fulfill requirements of people not only in their own company but in *other* companies too. In this context, the term "extended enterprise" is often used. The concept "extended enterprise" is, however, not unequivocally defined.

This article first discusses the concept of the extended enterprise and opposes this form of economic organization to the two other basic forms of economic organization, namely, the firm and the market. Next, we derive from organization theory (see, e.g., Hatch, 1997; Morgan, 1996) two basic types of business-to-business integration (B2Bi), namely, extended enterprise integration and market B2Bi. We show that the extended enterprise constitutes a specific context within which information systems are being developed, integrated, and maintained, and that this context allows for/needs specific ways of integration. We discuss the role of standards and coordination for both types of B2Bi.

THE EXTENDED ENTERPRISE VS. OTHER FORMS OF DOING BUSINESS

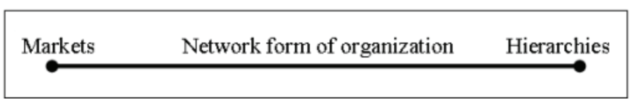
For a long time, two basic forms of economic organization have been recognized: markets on the one hand and hierarchies (firms) on the other. Powell (1990) refers to Ronald Coase as the person who first discussed the firm as a governance structure rather than just as a black box that transforms inputs into outputs. Coase (1937) asserts that firms and markets are alternative means for organizing similar kinds of transactions. Only in the 1970s did proponents of the transaction cost economics act upon Coase's findings. One of these proponents, Williamson (1975, 1985), argues that some transactions are more likely to take place within hierarchically organized firms (Williamson equated *firms* with *hierarchies*) than through a market interface. More specifically, he states that transactions that are to be executed within hierarchically organized firms are likely to involve uncertainty about their outcome, recur frequently, and require substantial "transaction-specific investments" (of money, time, or energy) that cannot be easily transferred. On the other hand, exchanges that are straightforward, nonrepetitive, and require no transaction-specific investments can be expected to take place across a market interface. "Organization, or hierarchy, arises when the boundaries of a firm expand to internalize transactions and resource flows that were previously conducted in the marketplace" (Powell, 1990, p. 303).

This dichotomous view of markets and hierarchies—as discussed by Williamson (1975)—sees firms as separate from markets and assumes the presence of sharp firm boundaries. These sharp boundaries, however, do not always seem to be present. This is true especially in the case of partnering organizations (extended enterprises). Transactions between partnering companies can be seen as a hybrid form of economic organization. That is, if transactions are distributed as points along a continuum with discrete market transactions located at one end and the highly centralized firm at the other end, partnering companies fall in between these poles. This is illustrated in Figure 1.

Podolny and Page (1998, p. 59) define a network form of organization as "any collection of actors (N ≥ 2) that pursue repeated, enduring exchange relations with one another and, at the same time, lack a legitimate organizational authority to arbitrate and resolve disputes that may arise during the exchange."

In the literature, the term "extended enterprise" is often used to refer to the network form of organization. The literature is, however, ambiguous about whether the concept "extended enterprise" requires some kind of *collaborative mindset*. In the vision of Bowersox, Closs, and Stank (2003), "cross-enterprise collaboration emerges when two or more firms voluntarily agree to integrate human, financial, or technical resources in an effort to create a new, more efficient, effective, or relevant business model" (p. 22). We believe the ambiguity with respect to the presence of a collaborative mindset is the reason that two different conceptualizations of the extended enterprise exist in literature. Sometimes, the extended enterprise is defined as a *collection* of different enterprises (see, e.g., Petersen & Szegheo, 2000). In other cases, the extended enterprise is regarded as one enterprise reaching out to its suppliers, customers, and partners (see, e.g., IFS, 2004). Figure 2 illustrates the issue. The light grey area contains the elements that are part of the extended enterprise. Company A has a long-term relationship with companies B, C, D, E, and F (and short-term relationships with companies G, H, I, J, K, and L in the market). In the left panel of the figure, the case is illustrated where A collaborates with the other companies. Cross-enterprise collaboration has a major impact on the organizations. Liedtka (1996) stresses that effective collaboration is difficult to achieve in a climate of business as usual, as it relies on qualities that are not present in most organizations. Successful collaboration requires the development of new skills, mindsets, and corporate architectures. Bowersox et al. (2003) argue that cross-enterprise collaboration requires companies to remodel the organizational structures. Cross-enterprise collaboration is thus a far-reaching effort. As such, the ensemble of enterprises forms one "collaborative extended enterprise."

Figure 1. The network form of organization as a hybrid of markets and hierarchies



In the right panel of the figure, there is no true collaboration among the companies. In that case, company A merely extends the optimization of its business processes to the (public) processes involving companies B, C, D, E, and F, and can as such be called an extended enterprise. It is worth mentioning that this still requires that companies are on very good terms with each other. They *are* cooperating, what is very different from regarding the counterparty as a party in a (series of) isolated transaction(s) and what is done in the marketplace. The cooperation is characterized by a win-win vision, instead of a "what you win, I lose" mindset.

Bowersox et al. (2003) argue that "collaboration" entails more than "cooperation." Therefore, we denote the two types of extended enterprises as the "collaborative extended enterprise" (left panel in Figure 2) and the "cooperative extended enterprise" (right panel in Figure 2). In the remainder of this article, we use the terms "extended enterprise" and "partnering" (instead of collaborating/cooperating) if we do not need to distinguish between the two types of extended enterprises.

As a conclusion to this discussion, we submit the following definition of the extended enterprise:

The extended enterprise is a collection of legal entities (N ≥ 2) that pursue repeated, enduring exchange relations with one another.

Figure 2. Two different conceptualizations of the extended enterprise (left panel: collaborative extended enterprise; right panel: cooperative extended enterprise)