

The Added Value of E-Procurement for Buyer-Supplier Interaction

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INTRODUCTION

Although back in 1980s Porter (1985), Kraljic (1983), Speckman (1981), and others already identified the strategic aspects of procurement, most companies have unnoted the potential of the procurement business function and e-procurement specifically until the late 1990s. The primary IT-interests of the management board were the internal processes (enterprise resource planning) as well as sales and marketing (customer relationship management). Lately however, Business-to-Business (B2B) processes and the e-collaboration between organizations have received increasing attention. (e.g., Braun & Winter, 2005; Cavalla, 2003; Versendaal & Brinkkemper, 2003; Kauffman, 2004).

Procurement is a specific area of B2B-collaboration that covers both a company's internal as well as its B2B-processes. Procurement is broader than "purchasing." Purchasing is about selecting a supplier, negotiating a price, and following up the order, while procurement also encompasses strategic sourcing, inventory control, storekeeping, disposal, and even collaborative engineering (Weele & Rietveld, 2000; Moe, 2004; Batenburg & Rutten, 2003).

Improvements in the procurement business function can lead to benefits in terms of cost savings, product quality increases and faster delivery of goods in many different ways (Chen, Paulraj, & Lado, 2004; Prahinski & Benton, 2004; Versendaal & Brinkkemper, 2003; O'Toole & Donaldson, 2002). Suppliers gain insight into the inventory levels of their buyers directly influence the production process of their suppliers (Womack, Jones, & Roos, 1991) and contract manufacturers insource production processes of their clients (e.g., Hagel, 2002).

E-procurement allows companies to use the Internet for procuring goods, as well as handling value added services like transportation, warehousing, payment, quality validation, and documentation (Johnson & Wang, 2002). With e-collaboration and e-procurement tools that support the planning, decision-making and coordination of procurement (Johnson & Wang, 2002), boundaries between buyers and suppliers can disappear.

Although there are many possible benefits anecdotal evidence shows that many initiatives and IT-implementations in the procurement domain do not deliver the suspected benefits, see for example Adamson (2001) and Pan, Pan, and Flynn (2004).

This paper searches an answer, based on empirical evidence, to the question: "Does the implementation of e-procurement (IT for procurement) positively affect the performance of buyer-supplier interaction?"

BACKGROUND

Some research has been conducted on the relation between procurement initiatives and procurement performance. Narasimhan and Das (2001) for example show that there is a correlation between the alignment of purchasing practices with a company's objectives and procurement performance. Chen et al. (2004) identify a relation between strategic purchasing, matured supply chain management and the company's financial performance. Subramaniam and Shaw (2004) found that the value of e-procurement systems in general varies depending on the process characteristics of the supported procurement function.

None of these papers explicitly mention e-procurement, or IT-related investments in the procurement domain, in relation to the performance of buyer-supplier interaction. Several fields of research however provide theories to answer the research questions, most notably: IT-metrics, strategic management, and business maturity.

Ever since IT-metrics have emerged as a specific field, scholars are searching for models and techniques to measure if organizations have invested the “right IT, aimed at the right processes and at the right moment” (Venkatraman, 1989). Brynjolfsson particularly contributed to this field as he defined the productivity paradox in 1993, and provided empirical evidence that IT indeed adds (tangible and intangible) benefits to the firm, provided that the right conditions are in place (Brynjolfsson & Hitt, 1995, 2000).

The capability maturity model (CMM) (Paulk et al., 1995) has become an established IS/IT maturity model. It was designed to measure, monitor and evaluate the professional development and engineering of software and related domains such as IT-governance, project management, and people management (Peppard & Ward, 1999). In the field of procurement, several authors have investigated ways for structured maturity development. (Cavinato, 1999; Kraljic, 1983; Van Weele & Rietveld, 2000). Van Weele and Rietveld defined a framework out of twelve other frameworks. The framework describes six “maturity” levels of procurement within an organization. These levels are described in the next section.

In order to help companies to choose and evaluate their e-procurement strategy this article presents an empirically tested E-procurement maturity framework

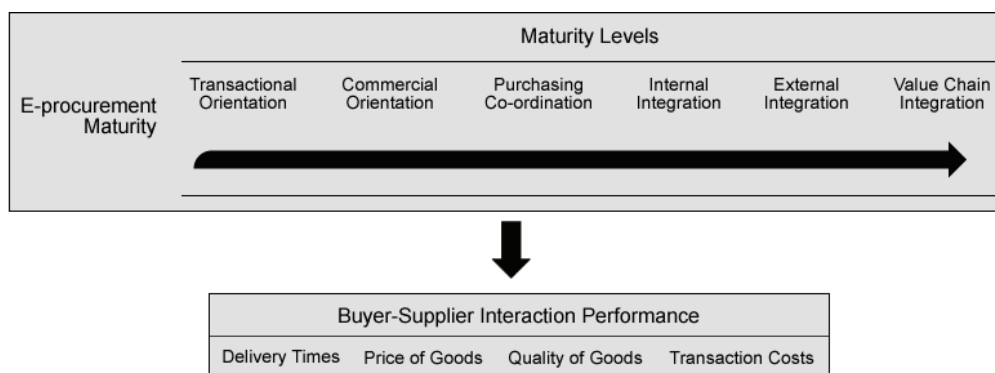
derived from Weele & Rietveld’s maturity levels. The framework is called the e-procurement maturity framework (E-PMF).

THE E-PROCUREMENT MATURITY FRAMEWORK

The e-procurement maturity framework is based on Weele & Rietveld’s (2000) procurement maturity model and relates e-procurement maturity to buyer-supplier interaction performance. The maturity level a company is at indicates how explicitly defined a specific process is and how strict it is managed, measured and controlled (Paulk, 1993). The six stages of maturity defined in Weele & Rietveld’s procurement maturity model are:

- **Transactional orientation:** No procurement strategy, procurement is just acting on purchasing requests from the rest of the organization
- **Commercial orientation:** Mainly cost-oriented purchasing
- **Purchasing coordination:** Basic sourcing and purchasing optimization is in place within the procurement department
- **Internal integration:** The procurement department is considered as a strategic internally integrated part of the overall organization
- **External integration:** Suppliers are considered valuable integrated resources for the organization
- **Value chain integration:** The procurement department is contributing to the effectiveness of the entire consumer supply chain

Figure 1. The e-procurement maturity framework



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