

## Chapter 6.5

# Management Considerations for B2B Online Exchanges

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### INTRODUCTION

Information systems that link businesses for the purpose of inter-organizational transfer of business transaction information (inter-organizational information systems, or IOIS) have been in use since the 1970s (Lankford & Riggs, 1996). Early systems relied on private networks, using electronic data interchange (EDI) or United Nations EDIFACT standards for format and content of transaction messages. Due to their cost and complexity, the use of these systems was confined primarily to large companies, but low-cost Internet commercialization has led to much more widespread adoption of IOIS. Systems using the Internet and the World Wide

Web are commonly referred to as B2B (business-to-business) systems, supporting B2B electronic commerce.

Technological innovations have led to several forms of B2B Internet implementations, often in the form of online exchanges. These are virtual marketplaces where buyers and sellers exchange information about prices, products, and service offerings, and negotiate business transactions. In addition to substituting proprietary lines of communication, emerging technologies and public networks have also facilitated new business models and new forms of interaction and collaboration, in areas such as collaborative product engineering or joint offerings of complex, modularized products. During the years 1999-2001 a number of online exchanges were introduced, but many of

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these failed (Gallaughier & Ramanathan, 2002), due mainly to an inability to attract participating business partners. Those that have survived are often owned by companies or consortia that are also exchange customers or suppliers.

The objective of this overview is to describe the evolution and the characteristics of B2B Internet implementations, and to discuss management considerations, the evaluation and adoption of B2B applications, and the technical infrastructure supporting these systems. We also indicate some of the open issues that remain as the technology and its adoption continues to evolve.

## **BACKGROUND**

Although there are many classification schemes available for online exchanges (Choudhury, 1997; Kaplan & Sawhney, 2000), we will use a more generic and functional focus, with three categories: sell-side, buy-side, and neutral/market-type applications (Archer & Gebauer, 2001). Early B2B sell-side applications featured online catalogs, made available to the Internet community by distributors and manufacturers, often complemented by features such as shopping baskets and payment functionality. Many now provide customized and secure views of the data, based on business rules from contract agreements with individual customers. In some cases, buying processes of the customers are supported, including features such as approval routing and reporting. While some sophisticated applications exist to support collaborative forecasting or the configuration of complex products, many sell-side systems handle only the simpler transactions, such as maintenance, repair, and operation (MRO) supplies. Recently, more advanced features have become more widely available, such as CPFR (collaborative planning, forecasting, and replenishment) to support joint initiatives between customer and supplier (Holmstrom, Framling, Kaipia & Saranen, 2002).

Buy-side applications support procurement, moving order processes closer to the end user, and alleviating structured workloads in functional departments such as purchasing and accounts payable. For smaller companies, an affordable alternative is to work through hosted solutions, using Internet browsers to access procurement functionality provided by a third-party vendor or application service provider (ASP). Some applications provide functionality beyond the automation of highly structured procurement processes, including production tendering, and multi-step generation requests for proposals, as they are relevant for the procurement of freelance and management services. Interfacing purchasing systems to internal systems such as enterprise resource planning systems (ERP) makes it possible to automate many transactions, thus greatly increasing processing speed and reducing costs. Buy-side solutions that involve long-term inter-organizational relationships are typically set up by the purchasing organization, which then controls catalog content, data format, and back-end system functionality. Benefits include a reduction in maverick buying, and freeing purchasing and accounts payable personnel from clerical work to handle more strategic tasks. Suppliers typically benefit from long-term relationships, and in many cases the relationships between the buyer and its suppliers were in place before the buy-side operation was established.

The third group of applications, often referred to as B2B electronic markets or hubs, can either bring together multiple buyers and sellers on an ad hoc basis involving various types of auctions, or support more permanent relationships (a many-to-many relationship, equivalent to IOIS). Those that have been more successful are likely to have been sponsored by a consortium (e.g., GlobalNetXchange, in the retail industry, sponsored by buying organizations, and Global Healthcare Exchange in the health care industry, sponsored by selling organizations). They may feature auctions, electronic catalogs, and auxiliary

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