

# Chapter 6

## Company-Centric B2B and E-Procurement

### Learning Objectives

Upon completion of this chapter, you will be able to:

1. Describe the B2B field.
2. Describe the major types of B2B models.
3. Discuss the characteristics of the sell-side marketplace, including auctions.
4. Describe the sell-side intermediary models.
5. Describe the characteristics of the buy-side marketplace and e-procurement.
6. Explain how reverse auctions work in B2B.
7. Describe B2B aggregation and group purchasing models.
8. Describe infrastructure and standards requirements for B2B.
9. Describe Web EDI, XML, and Web services.

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Appendix 6A From Traditional to Internet-Based EDI

### Answers to Pause/Break Section Review Questions

#### Section 6.1 Review Questions

1. *Define B2B.*

Business-to-business e-commerce refers to transactions between businesses conducted electronically over the Internet, extranets, intranets or private networks.

2. *Discuss the following: spot buying versus strategic sourcing, direct materials versus indirect materials, and vertical markets versus horizontal markets.*

Spot buying is the purchase of goods and services as they are needed, usually at prevailing market prices. In contrast, strategic sourcing is the purchase of goods and

services involving long-term contracts that are usually based on private negotiations. Direct materials are the materials that are used in the creation of a product whereas indirect materials are used to support that production. Vertical markets are concentrated in a specific industry whereas horizontal markets concentrate on a product or service that is used across several industries.

3. *What are buy-side and sell-side transactions? How are they different?*

Buy-side transactions involve one buyer and many sellers whereas sell-side transactions involve one seller and many buyers.

4. *What are company-centric marketplaces? Are they public or private?*

Company-centric marketplaces focus on a single company's purchasing needs or selling needs and are generally private entities owned by that company.

5. *Define B2B exchanges.*

A B2B exchange is a many-to-many e-marketplace, usually owned and run by a third party, in which many buyers and sellers meet electronically to trade with each other.

6. *Relate the supply chain to B2B transactions.*

The use of business-to-business electronic commerce is generally a part of existing supply chains that are used to make them more efficient.

7. *List the B2B service industries.*

The virtual service industries in B2B include: travel services, real estate, electronic payments, online stock trading, online financing and other online services.

8. *Summarize the benefits of B2B.*

These benefits are listed on page 222.

## Section 6.2 Review Questions

1. *List the types of sell-side B2B transaction models.*

The major types of B2B sell-side transactions include selling from electronic catalogs, selling through forward auctions and one-to-one selling.

2. *Distinguish between use and nonuse of intermediaries in B2B sell-side transactions.*

In some cases, firms may use an intermediary to provide some or all of their sell-side transaction systems. When intermediaries are used, it is generally in the format of an electronic marketplace. The larger the firm, the more likely it is to use a private, and not a third-party intermediary system.

3. *Describe customer service in B2B systems.*

Customer service in B2B systems is very similar to the customer service provided in B2C systems. It is important to provide the customer with a way to interact with the merchant and have technical questions solved. In this market, personalization/customization of the service becomes even more important because of the large sales volume involved.

4. *Describe direct sales from catalogs.*

B2B can use catalogs in much the same way that B2C merchants can. Merchants are able to list a variety of their products online for customers to select and purchase from. Personalization/customization becomes more important in B2B sell-side transactions when firms are working with larger customers.

5. *Discuss the benefits and limitations of direct sales from catalogs.*

There are several benefits to direct sales including: lower order processing costs, a faster ordering cycle, fewer errors, lower search costs for buyers/sellers, lower logistics costs and customization options. The limitations to direct sales include attracting buyers, channel conflicts, the method of electronic indication and the required scale to operate efficiently.

### **Section 6.3 Review Questions**

1. *List the benefits of using B2B auctions for selling.*

The four major benefits of using B2B auctions for selling include: revenue generation, cost savings, increased page views and member acquisition/retention.

2. *List the benefits of using auction intermediaries.*

The benefits of using an intermediary include the lack of new required resources, fast time to market, customization of interface, low technical and ongoing requirements and outsourcing of billing/collections.

## Section 6.4 Review Questions

1. *Describe the online services that CCO offers.*

The CCO system provides a variety of online services. The service provides customers with the ability to download current software, order and configure products online, and track order status/FAQs online.

2. *What are the benefits of CCO to Cisco? To Cisco's customers?*

Cisco receives many benefits from its CCO system including: reduced operating costs for order taking, enhanced technical/customer support, reduced support staff costs, reduced software distribution costs and faster service. Cisco customers benefit by being able to purchase and configure items more quickly, immediately determine costs and interface better with Cisco's staff.

3. *Draw Marshall's supply chain.*

The supply chain for Marshall's would resemble the following:

Manufacturers -> Distributors (Marshall's) -> Merchants -> Customers.

4. *Being an intermediary, how does Marshall (Avent) protect its existence?*

Marshall's is concerned with disintermediation in its supply chain. In order to ensure its existence, it ensures that it provides value-added services to its customers. These value-added services fall in the area of IT services.

5. *Draw Boeing's PART supply chain.*

The supply chain for Boeing's PART system would resemble the following:

Manufacturers -> Distributors (Boeing) -> Merchants -> Customers.

6. *What activities in Boeing's supply chain are improved by its online initiatives?*

A wide variety of the activities in Boeing's supply chain are improved by its online initiatives. Examples of these improvements include the ability to handle transactions more efficiently, the ability for customers to order parts conveniently online, reduced personnel costs and goodwill towards Boeing, which may result in future purchases.

7. *What are the similarities between CCO and PART?*

Both systems allow customers to serve themselves with information, orders/customization and communication.

## Section 6.5 Review Questions

1. *Define procurement and list the major procurement methods.*

Procurement is the acquisition of goods and services for a business. The major methods are listed on page 231.

2. *Describe the inefficiencies of traditional procurement.*

The traditional procurement system is inefficient because it involves large amounts of time spent analyzing small repetitive purchases that could be made more efficiently through a more developed system. Additionally, the lack of this developed system creates maverick buying.

3. *Define e-procurement and its goals.*

E-procurement is the electronic acquisition of goods and services for a business. E-procurement attempts to achieve the following goals: increased productivity, lower purchase prices, improved information flow, minimized maverick purchasing, improved payment processes, faster purchasing, reduced processing costs, and finding new suppliers/vendors.

4. *Differentiate direct materials from MROs. Why are MROs good candidates for e-procurement?*

Direct materials are those materials that are used in the production process and are part of the finished item. Indirect materials (MROs) are materials used to support the manufacturing process but are not used as a part of the finished good. Office supplies are an excellent example of MROs. MROs are an excellent candidate for e-procurement because they are generally small dollar items that are purchased repetitively.

5. *Describe the implementation of e-procurement.*

To implement e-procurement a firm must first decide how it fits in its overall strategy. After this is determined, the firm must evaluate its existing processes and changes that this system will make in both processes and personnel. Next, the firm must begin to set up the software that will allow them to continue. This process will involve establishing what goods should be purchased and from whom. Additionally, back-end systems must be configured.

## Section 6.6 Review Questions

1. *Describe a manual tendering system.*

Under a manual tendering system, buyers create descriptions of the products that they

would like to purchase and then send out RFQs to potential bidders. Potential bidders review the information, ask questions and submit bids. Buyers then evaluate the bids and select a bidder.

2. *How do online reverse auctions work?*

Companies place their RFQ information online and allow bidders to access that information and place bids.

3. *List the benefits of Web-based reverse auctions.*

There are several benefits to Web-based reverse auctions including: decreased processing time, easier bidding, easier analysis of bids, larger numbers of bids and reduced bidding preparation costs.

4. *Describe the business drivers of GE's TPN (GXS) and its evolution over time.*

The existing RFQ process was not efficient, and that lack of efficiency was multiplied by the huge size of the lighting division. Over time the system has grown to provide more features to users.

5. *What was a primary challenge to GE in implementing its e-procurement system?*

GE faced the challenge of successfully integrating with its suppliers.

## **Section 6.7 Review Questions**

1. *Describe an internal marketplace and list its benefits.*

An internal marketplace is an aggregation of several different suppliers' catalogs in one location. The major benefits of this type of aggregated catalog system involve the ease and speed of the resulting ordering process.

2. *Describe the benefits of desktop purchasing.*

The benefits include the ability to purchase quickly and at a lower acquisition cost.

3. *Discuss the relationship of desktop purchasing with internal marketplaces and group purchasing.*

The system allows for easier internal purchasing with fewer management hurdles. It also allows the effective consolidation of MROs for group purchasing.

4. *Describe how industrial malls operate and discuss their appeal to buyers.*

These malls provide one-stop shopping for small business. They aggregate a large variety of products and vendors in one location.

5. *Explain the logic of group purchasing and how it is organized.*

Group purchasing is based on the idea that individual buyers will be able to negotiate a better price on goods and services if they act as a buying group. Group purchasing is organized through internal or external aggregation depending on the size of the firm placing the order. External aggregation is usually organized through a third-party system.

6. *How does B2B bartering work?*

B2B bartering usually involves an intermediary operating a bargaining exchange where firms and the goods they would like to trade can be matched.

## **Section 6.8 Review Questions**

1. *List the major infrastructures required for B2B EC.*

The major infrastructures required for the systems include: servers for databases and applications, software for sell-side activities, software for auctions, software for e-procurement, software for CRM, security systems, storefront software, exchange software, and networks and protocols.

2. *Describe the difficulties of integration with business partners.*

Integrating with business partners is generally difficult because of the variety of systems used. Because each partner may use a different system, integration is required for each separate system.

3. *Describe the roles of the EDI and extranets in interorganizational networks.*

EDI provides a standardized system of communication for passing information between business partners. And extranets provide a secure medium for communication while leveraging existing Internet infrastructures and protocols.

4. *Distinguish traditional EDI from Web-based EDI.*

Web-based EDI uses internet protocols (instead of proprietary networks) to distribute information.

5. *Describe the purpose of XML.*

XML is meant to be the replacement for EDI by providing a consistent, flexible language for data transmission that relies on existing Internet standards.

6. *Describe Web services and their role in integration.*

Web services are an architecture that allows for the combination of several applications in one location. It can ease integration by provide a building blocks for distributed systems.

7. *What role do software agents play in B2B?*

Software agents can play a variety of roles in B2B including automating the purchasing and quoting process.

## **Answers to EC Application Case Questions**

### **EC Application Case 6.1: Buying from Virtual Seller Bigboxx**

1. *Enter **bigboxx.com** and **staples.com** and compare their offerings and purchase processes. (Take the tutorial at **bigboxx.com**.) What support services are provided?*

Both companies offer online Web sites that sell a variety of office products to businesses. It appears that Staples.com offers more computer-related equipment, but that Bigboxx.com offers a wider overall product selection. Staples.com appears to supply a North American market whereas Bigboxx.com appears to supply Hong Kong and the Asian market.

2. *One day, customers may be used to buying office supplies online. They may then try to buy directly from the manufacturers. Will **Bigboxx.com** then be disintermediated?*

These firms will probably not be victims of disintermediation because they provide a valuable role acting as a catalog integrator. Because they aggregate the products of so many different manufacturers, they make the purchasing process significantly easier for businesses.

### **EC Application Case 6.2: Whirlpool B2B Trading Portal**

1. *How do Whirlpool's customers benefit from the portal?*

It allows customers to easily select items from a catalog, enter orders and track them online.

2. *What are the benefits of the trading portal to Whirlpool?*

It decreases the overall cost of processing orders.

3. *Relate the B2B sell-side to a B2C storefront.*

These are very similar applications in what they do, the difference is who is targeted at the site (known end users versus anonymous customers).

### **EC Application Case 6.3: Desktop E-Procurement at Schlumberger**

1. *Describe the benefits of the new systems over the old system.*

The system allows the company to aggregate and prenegotiate order costs, while saving time in the purchasing process.

2. *Describe how the e-procurement system operates.*

The system lists a variety of products from several vendors that have been preapproved (aggregated and prenegotiated) for employees to purchase.

3. *Summarize the benefits of e-procurement to the company.*

The company saves money on products purchased and saves time in the purchase process.

### **EC Application Case 6.4: Bidding through a Third-Party Auctioneer: FreeMarkets**

1. *What type of auction is this?*

This is a reverse auction.

2. *What role does FreeMarkets play in the procurement process?*

This intermediary provides a variety of services. The firm assists the buyer in screening potential editors as well as providing the forum for the bids themselves.

3. *Why would a large company such as United Technologies need an intermediary?*

The intermediary is able to provide benefits to United Technologies through screening and evaluating potential bidders and providing a framework for the bids to occur in.

### **EC Application Case 6.5: W.W. Grainger and Goodrich Corporation**

1. *Enter **grainger.com** and review all services offered to buyers. Prepare a list of*

*these services.*

The site offers a full catalog, shopping and pricing assistants.

2. *Explain how Goodrich's buyers save time and money.*

They can shop at one location for a variety of products. The shopping online is quick.

3. *What other benefits does Goodrich enjoy by using **granger.com**?*

There is a decrease in paperwork due to the use of online purchasing and purchasing cards.

4. *How is desktop purchasing implemented at Goodrich Corporation?*

The system has decreased the time spent by purchasing agents and has allowed purchasing to be completed by employees through purchasing cards.

### **Answers to Discussions Questions**

1. *Explain how a catalog-based sell-side e-marketplace works and discuss its benefits.*

Sell-side catalog-based marketplaces are very similar to business-to-consumer catalog-based marketplaces. They provide a service that allows buyers to easily select and purchase products from a catalog of potential goods provided by the seller. Sellers are able to easily display a large variety of items to their potential buyers. Buyers are able to make their purchases easily through this online system.

2. *Distinguish sell-side e-marketplaces from buy-side e-marketplaces.*

Sell-side marketplaces are considered one-to-many, with one firm selling to a large variety of potential customers. A buy-side marketplace is many-to-one, with one firm soliciting RFQs from a variety of different bidders.

3. *Discuss the advantages of selling through online auctions over selling from catalogs.*

Selling through auctions has several advantages including low overhead and operational costs if a third-party auction is used, the ability to sell one-of-a-kind items easily, the ability to sell at the prevailing market price, and the ability to change products and pricing quickly.

4. *Discuss the role of intermediaries in B2B.*

Intermediaries in business-to-business electronic commerce generally perform some sort of value-added operation. These intermediaries provide value through their ability to move goods through the value chain in a manner that assists both those upstream and

downstream.

5. *How can companies buying from a sell-side e-marketplace integrate order information with their corporation's procurement systems?*

Companies with a close relationship with their sell-side partners can automate both orders themselves (based on stock levels and depletion rates), as well as integrating order information with procurement systems and inventory levels. This integration can allow an almost touchless procurement operation for a variety of goods. The integration relies on the ability of the corporate and sell-side partner's ability to integrate their information systems.

6. *Discuss and compare all the mechanisms that aggregators of group purchasing can use.*

Companies can use the internal aggregation and external aggregation. Internal aggregation relies on the company to create a critical mass of purchases across several operating divisions to make group purchasing worthwhile. This system provides a company with a large degree of control over when purchases are made and the specific items purchased. This system only works for very large firms. External aggregation allows smaller firms to work with others to create a critical mass for purchases. This system relies on several independent firms, and therefore the individual firms may not have the level of control that one large internal aggregator would have.

7. *Build a portfolio of e-procurement alternatives for a company that you are familiar with.*

Student reports will vary.

8. *Should desktop purchasing be implemented only through an internal marketplace?*

Student answers will vary and will be based on the interplay between organizational control and ease of purchasing.

9. *How do companies eliminate the potential limitations and risks associated with Web-based EDI? (To answer this, first see Appendix 6A.)*

Student reports will vary.

10. *How can software agents work for multiple sellers and buyers?*

These agents can work to select appropriate buyers and sellers in electronic marketplaces and match appropriate partners. In this way, the agent is acting as a filter of information for both groups of users.

11. *Discuss the role of XML in B2B. Why is it so important?*

XML is an open data interchange language that will allow firms to eliminate the need for EDI. It is possible that XML could provide a single language for data transmission. Additionally, XML is designed to work with Internet protocols, thus providing businesses with a huge potential network (the Internet).

12. *Discuss the importance of Web services to B2B integration.*

Student reports will vary. Web services provide an architecture that is flexible and assumes integration. This provides a starting place for the integration of several systems.

### **Internet Exercises**

(Note: URLs may change over time; please check the Internet Exercises on the Turban Web site for possible updates: [www.prenhall.com/turban](http://www.prenhall.com/turban).)

1. Visit ***milacron.com*** and its ***milpro.com*** site. Examine the sites from the buyer's perspective. Find out how to place an order. Check the "machinery flea market" link, click on the "search database." Report on your experiences.

The firm provides a variety of industrial machinery used in fabrication of plastic and metal goods. The site provides a wide variety of information about the different types of goods available. The process of ordering varies based on the type of product to be ordered. For example, large machinery requires contact with a sales representative while purchasing small parts can be done by linking to a separate site.

2. Enter ***gxs.com*** and review GSX Express's bidding process. Describe the preparations your company would make in order to bid on GE jobs.

Answers will vary.

3. Enter ***commerceone.com*** and review the capabilities of BuySite and MarketSite. Find out how Commerce One supports the integration of many sellers' electronic catalogs for a specific buyer.

Answers will vary.

4. Visit ***allsystem.com*** to review All-System Aerospace International, Inc., a company that handles aircraft parts from several vendors. From an aircraft repair technician's point of view, evaluate whether this site can compete with Boeing's PART system.

Student answers will vary. The site provides a variety of parts for different aircraft. The site is not complex and provides a parts listing for specific types of aircraft. While it is a

clearinghouse, Boeing's PART system appears to be superior due to the greater range of parts and easier navigation.

5. Visit **eventory.com**, **shop2gether.com**, and **escout.com**. Compare the services offered by these businesses.

Shop2gether.com is a firm that provides buyer aggregation for educational institutions.

6. Examine the sites **fastparts.com**, **ariba.com**, **trilogy.com**, **freemarkets.com**, **electricnet.com**, **peregrine.com**, and **ecweb.com**. Match a B2B business model with each site.

fastparts.com - many-to-many exchange

ariba.com - solution provider for sell-side, buy-side, exchanges and collaborative commerce

trilogy.com - business-to-business e-commerce software provider

freemarkets.com - solution provider of buy-side software

electricnet.com - many-to-many exchange

peregrine.com - solution provider for internal business process reengineering and collaborative commerce

ecweb.com - solution provider for sell-side software

7. Visit **supplyworks.com** and examine how the company streamlines the purchase process. How does this company differ from **ariba.com**?

The firm provides software solutions that automate Supplier Resource Management. The solutions allow tighter integration and lower transaction costs between buyers and sellers. This firm is concentrated on solutions for the supply-side. While ariba.com provides similar solutions, they also focus on buy-side and complete supply chain integration.

8. Enter **soho.org** and **onlinesoho.com** and locate EC applications for SOHO. Also, check the business services provided by **officedepot.com** for small businesses.

Student responses will vary based on the applications chosen.

9. Visit **ebay.com** and identify all activities related to its small business auctions (business eXchange). What services are provided by eBay?

It appears that eBay no longer offers auctions specific to small businesses.

10. Visit **avnet.com** and find how its supply chain is structured. Draw the chain, showing Marshall's role. (Hint: See Timmers 1999 and Kalakota and Robinson 2001.)

Marshall.com is now Avnet Electronics Marketing. This new business provides supply chain solutions to other companies. Specific information about its supply chain is no longer available.

11. *Review the Cisco Connection Online (CCO) case (page 227).*

a. *What is the CCO business model?*

This system allows for the customization of products in a business-to-business sales environment.

b. *Where are the success factors of CCO?*

The success factors would include the level of the system's sophistication and allowing customization; the ability of the system to provide customer service based on need; and the ability of the system to link customers with relevant product information.

c. *What kinds of inquiries are supported when customers check their order status?*

The system can track shipping date, shipping method, and current location. Additionally, the system provides a variety of FAQs with answers to commonly asked questions.

d. *What are the major benefits of CCO to Cisco and its customers?*

Cisco benefits by reducing the cost of order taking, improving service and support, reducing technical support staff cost, reducing software distribution costs, and providing faster customer service. Customers receive quicker service and price quotes in addition to better support and collaboration.

## **Team Assignments and Role Playing**

1. *Predictions about the future magnitude of B2B and statistics on its actual volume in various countries keep changing. In this activity, each team will locate current B2B predictions and statistics for different world regions (e.g. Asia, Europe, North America). Using at least five sources, each team will find the predicted B2B volume (in dollars) for the next 5 years in their assigned region. Possible sources of data are listed in Exhibit 4.2 (page 132).*

Student answers will vary based on which statistics are used and when statistics are procured.

2. *Your goal in this assignment is to investigate the major B2B vendors. Each team should investigate a major vendor (e.g., Ariba, Microsoft, HP, Commerce One, Oracle, or IBM) or an application type (buy-side, sell-side, or auction). Find the major products and services offered, and examine customer success stories. Write a report of your findings. Convince the class that your vendor is the best.*

Student answers will vary based on business selected.

### **End-of-Chapter Real-World Case: Eastman Chemical Makes Procurement a Strategic Advantage**

1. Enter **commerceone.com** and find information about the capabilities of BuySite and MarketSite. How do the two applications differ?

Answers will vary. Note, CommerceOne has renamed their product suite.

2. Why did Eastman Chemical start first with e-procurement rather than with the sell-side? You may want to visit **eastman.com** to learn more about the company.

The company was focused on reducing the cost of MRO purchases to make operations more efficient.

3. In July 2000, Eastman Chemical introduced an EC project that enables buyers to participate in Eastman's private online price negotiations using LiveExchange from Moai (**moai.com**). Explain how the software works and why it is referred to as "dynamic commerce."

The software allows different groups to participate in product negotiation. It is "dynamic commerce" because the addition of new purchasers can dramatically affect pricing and availability for products.

4. Which of the problems cited in this case can be solved by other EC applications? Relate your answer to Commerce One products.

Student answers will vary.