

PART 1

OVERVIEW OF B2B ELECTRONIC MARKETPLACES

Part 1 discusses the contours of business-to-business commerce and how the Internet provides new avenues for that commerce. It then surveys several key aspects of B2B marketplaces, such as what inputs are traded, whether the B2B is organized vertically or horizontally, what pricing mechanisms are used, who owns or controls the B2B, and how revenue is generated. Last, Part 1 explores these and other factors within several contexts: information sharing; barriers to entry, network effects and intellectual property issues; and switching costs and marketplace interoperability.

A. Business-to-Business Commerce

At the outset, some definitions are in order. “Business-to-business commerce,” or industrial purchasing, refers to the many different types of interactions relating to the purchase and sale of goods and services between businesses.¹ Some estimate the total of business-to-business commerce as “more than 70% of the regular economy.”² Given the size of the U.S. economy, it is clear that even a small increase in efficiency for that 70% could have profound implications for businesses and consumers alike.

B2B electronic marketplaces (or “B2Bs,” for the purposes of this Staff Report) refers to transactions that occur online through the support of the Internet.³ B2B electronic marketplaces, therefore, are “a distinct system of suppliers, distributors, commerce services providers, infrastructure providers and customers that use the Internet for communications and

¹ B2C refers to business-to-consumer commerce and has been the subject of considerable attention in its own right. However, for instant purposes, B2C falls beyond the scope of this report. To the extent it was addressed by the participants, it was in the context of distinguishing B2B from B2C commerce, with some noting that B2B commerce can be even more complex. *See, e.g.,* Salomon Smith Barney (Stmt) (“Salomon Smith Barney (Stmt)” hereinafter refers to *B2B e*commerce – A Vertical and Horizontal Perspective*, January 2000) 97-100; Bye (Stmt) 4-5. B2G refers to business-to-government commerce. B2G commerce is treated as a subset of B2B commerce in which one of the businesses is the government. *See infra* nn. 39-41 to Part 2 and accompanying text.

² Erick Schonfeld, *Corporations of the World, Unite!*, E-Company, June 2000, at 125.

³ On its broadest level, “e-commerce” refers to “any trade or commercial transaction that is effected via electronic means; this would include such means as facsimile, telex, EDI, Internet, and the telephone.” Bye (Stmt) 4. This report adopts the more narrow and more common definition of “trade that actually takes place over the Internet.” *Id.*

transactions.”⁴ Businesses typically engage in at least six “B2B” activities: they search, source, specify, negotiate/bid, order, and receive goods and services⁵ that are needed in order to operate.⁶ At the most basic level, B2B e-marketplaces essentially take one or more of those standard business processes and put them online. Eventually, businesses may be able to move other business interactions, such as joint product design, online as well.

B. Electronic Business Communication

B2Bs are the latest step in the long evolution of business communication practices. The evolution of industrial purchasing has been one of constant, albeit sometimes uneven, incorporation of new technologies. Those technologies include, but are not limited to, the telephone, facsimile, various resource planning tools, electronic data interchange and, most recently, the Internet.⁷ The Internet provides the next step in electronic communication, a step that many consider to be a quantum leap.

1. Legacy Systems

The term “legacy systems” is generally used to refer to the systems for automating business-to-business commerce that preceded the Internet. It is helpful to understand them, both because they represent one baseline from which the efficiency gains attributable to Internet commerce may be measured, and because they are sometimes “back office” systems to which companies want their B2Bs linked. For the most part, these systems facilitate various communications about a firm’s input requirements. The advantages of automating input requirements become clear when one considers that many companies do high volumes of business, with products that use some common parts but also some unique parts and that each have varying production lead times.⁸

One such legacy system, materials requirements planning (“MRP”) is a complex software application that enables companies to more efficiently track what they need to purchase based on

⁴ Baker & McKenzie (Stmt) 3, n.3.

⁵ Hereinafter, “goods” also includes “services.”

⁶ Attanasio 98. *See also* Stewart 63; Morgan Stanley Dean Witter (Stmt) 27-32. A submission from the CPR Institute for Dispute Resolution stated that because “business disputes are inevitable,” dispute resolution is as much a part of the corporate procurement process as identifying needs and pricing. Henry (Stmt) 1. Therefore, it urges participants to use B2Bs also as a mechanism for planning to manage disputes. *Id.*

⁷ Bye (Stmt) 4-5.

⁸ Kinney (Stmt) A-2 - A-3.

their production schedules.⁹ MRP can be understood as “a manufacturer’s cookbook.” It contains a “bill of materials” (“BOM”) that delineates which and how parts are needed to make the product. The BOM not only stores that general information but also breaks it down into parts and sub-assemblies. The MRP application integrates this information with information about production schedules to generate a firm’s “shopping list.” The MRP can be run, and therefore a new “shopping list” generated, as frequently as a business determines is necessary (e.g., daily, weekly, etc.).¹⁰ Enterprise resource planning (“ERP”) systems are more advanced forms of MRPs, because in addition to managing the production of products, ERPs typically include human resource administration and financial accounting components.¹¹ For example, if a company’s financial system is integrated with its purchasing systems through an ERP, then when a purchase is made by a company employee, the finance department will be notified immediately.¹²

MRP and ERP systems can assist businesses in reducing the amount of time parts are held in inventory. Reducing this “lead-time” is often a central goal of businesses. Parts must arrive in sufficient time to meet production schedules, but also in a manner that minimizes inventory. If lead-time, and therefore inventory, could be reduced to zero, a business would be functioning on a build-to-order basis.¹³ MRP and ERP systems can help businesses more accurately anticipate their input needs and thus reduce inventory lead-time. Their primary shortcoming is that their functioning is purely internal to the business which contains the system.

Yet another legacy system, electronic data interchange (“EDI”) expands upon MRP and ERP systems in that it permits buyers to convey their input needs directly to their suppliers. EDI provides computerized documents through which businesses can exchange the considerable information that business-to-business transactions require. Computerized transmission of input requirements between businesses via EDI marked a tremendous advance and resulted in considerable reduction in transaction costs for many participating firms.

While the ability of EDI to connect businesses is a valuable contribution, it comes at a very high price. EDI systems were originally built to use private computer networks, called “value added networks” (“VANS”).¹⁴ These private networks required a substantial capital outlay both to implement and to maintain and, for that reason alone, many do not consider EDIs to be a

⁹ See, e.g., Kinney (Stmt) 4-5.

¹⁰ *Id.* at A-1 - A-5.

¹¹ *Id.* at 5, n.6.

¹² Fromer 45-47.

¹³ Kinney (Stmt) A-4.

¹⁴ See *infra* at Part 1.A.2 (discussing EDI networks facilitated by the Internet).

“viable option for most businesses.”¹⁵ Thus, although EDIs have been automating business-to-business transactions for more than a decade, primarily large firms have been the beneficiaries of their savings.¹⁶

Even for those businesses that could afford EDI systems, the underlying reliance on private networks resulted in significant constraints on the service that EDIs could provide. Some concluded that such EDIs do not provide market transparency or allow for market growth.¹⁷ EDI supports a series of bilateral relationships rather than multilateral, dynamic relationships. Both the lack of transparency and market growth are largely attributable to the necessity of “establish[ing] an individual connection with every business partner.”¹⁸

2. Internet

The Internet makes B2Bs possible. It is an extremely efficient mechanism for the exchange of information in light of its pervasiveness and the ease of connectivity.¹⁹ This type of connectivity is possible due in large part to extensible mark-up language (“XML”), which is the business-to-business e-commerce alphabet.²⁰ Through the Internet, businesses with differing MRP and ERP systems or computer hardware can access the universal browser without complex installations.²¹ Small businesses unable to independently develop a viable e-commerce strategy could use B2Bs to “leverage a public infrastructure from someone else” to achieve its e-commerce goals.²² In sum, “[t]he rapid and transformative growth of [B2B e-marketplaces] is attributable to the widespread adoption of the Internet, combined with new trading software and lower computing costs.”²³

Internet technology affords sharing of “an unprecedented level of information about the complete activities of the customers in the marketplace” among sellers and buyers that participate

¹⁵ *E.g.*, Boeth (Stmt) 3.

¹⁶ Harting (Stmt) 7. *See also* Fromer 48.

¹⁷ *Id.*

¹⁸ Fromer 37.

¹⁹ *See, e.g.*, First 526; Harting (Stmt) 2.

²⁰ Teagarden 117-18.

²¹ Kinney (Stmt) 29.

²² Phillips 270. *See also* Tarkoff 19-20.

²³ Harting (Stmt) 7.

in any given B2B electronic marketplace.²⁴ Each transaction on the Internet can be tracked in great detail. Participants in any B2B can know, among other things, the identities of the purchaser and seller, the quantity purchased, the date and time of the transaction, and the number of times the specific purchaser looked at the product before making her decision.²⁵

B2Bs can operate in conjunction with legacy systems. The integration of B2Bs with “back-offices” or “back ends” refers to linking the new technology with legacy systems so as to continue reaping, and expanding upon, the benefits of the earlier systems.²⁶ What this means as a practical matter is that the B2B can receive the information as it has been assembled by the legacy systems rather than necessitating separate completion of extensive B2B order screens, or vice versa.²⁷ For example, if a B2B and a company’s legacy system are integrated, and the B2B sends e-mails to the company regarding orders, the company will not have to “re-key” that information into its legacy system in order to process and fulfill it.²⁸

And, in some cases, firms may not join B2Bs, but instead may use the Internet as a tool to improve existing proprietary networks. For example, with regard to EDI, it was noted that proprietary networks (facilitated by the Internet) will continue “where an individual manufacturer or purchaser continues to want to have its own vertical relationship with a host of suppliers as compared to [participation in a B2B].”²⁹ Even without EDI, a firm may consider whether it needs B2B participation to achieve desired cost savings, or whether it can achieve the same types of results by using the Internet to facilitate its own private network through which it maintains buy-sell relationships with suppliers and customers.

C. B2Bs

Markets can assume as many forms online as they do offline. Each form may make more or less business sense depending on a multitude of factors, including the types of goods involved

²⁴ Mirek 188.

²⁵ OESA (Stmt) 3.

²⁶ *See, e.g.,* Sullivan 252 (A “compelling reason” to join a B2B is to “leverag[e] the web technologies and ERP technologies out there to integrate into their back ends and improve their bottom lines”); Mirek 145 (Important to participation in B2Bs is their ability to provide “increased operational efficiencies, such as back-office integration.”)

²⁷ Kinney (Stmt) 5 & n.7.

²⁸ Morgan Stanley Dean Witter (Stmt) 81.

²⁹ Guerin-Calvert 433-34.

and the nature of the industry. Below is a brief survey of some important dimensions of B2Bs.³⁰

1. Direct and Indirect Inputs

All of the goods purchased and sold in business-to-business commerce fall into one of two general categories – direct or indirect inputs. Direct inputs, or manufacturing inputs, are raw materials or components that will be used directly in the manufacturing process.³¹ These materials will be used in the buyer’s final product or will be sold by a retailer. Examples of these would include the highly-engineered parts that a firm installs into the machinery it manufactures and the different chemicals that businesses may use for purposes as diverse as creating drugs or treating wood products. By contrast, indirect inputs, also known as operating inputs, are used for maintenance, repair, or operation (“MRO”) and do not become part of the finished product.³² Examples of these would include items such as paper clips and janitorial services.

Direct inputs generally account for fewer transactions than do indirect purchases, but the dollar value of each transaction involving a direct good tends to be greater.³³ Moreover, direct material purchasing tends to be a specialized function, whereas the purchasing of indirect materials may be fairly widespread within an organization.³⁴ Manufacturing firms and retailers typically devote a relatively higher proportion of their spending to direct material than do other types of firms, such as financial service firms, which typically devote more of their spending to indirect materials.³⁵ Whether a purchase involves direct or indirect materials may have implications for the type of B2B solution that fits best.

2. Horizontal or Vertical Organization

B2Bs are often categorized as “horizontal” or “vertical.” “Horizontal” or “vertical”

³⁰ Clark 363-64 (noting that generalizations across industries are difficult because different facts are typically implicated).

³¹ Steve Kaplan and Mohanbir Sawhney, *E-Hubs: The New B2B Marketplaces*, Harv. Bus. Rev., May-June 2000, at 98.

³² *Id.* at 98. *See also* Knight 250. Knight further subdivides MRO into white collar and blue collar. The former refers to indirect goods used in offices (e.g., paper clips), the latter refers to indirect goods used in factories (e.g., gloves, valves).

³³ Kinney (Stmt) 12.

³⁴ *Id.*

³⁵ *See, e.g.,* Kinney (Stmt) 8; Gray 160 (noting that among retailers approximately 25% is MRO-type spend and 70% tends to be spend for more complex goods).

organization refers, respectively, to whether the marketplace serves many different industries or a single industry. If the marketplace’s “product focus” is not necessarily specialized in any one category but has considerable breadth, then it is usually considered a horizontal marketplace.³⁶ If the marketplace provides product expertise and in-depth content knowledge for an industry, reflecting an “orientation along many steps in the supply chain of one product category,” then it is said to be organized vertically.³⁷

Given the variety of their offerings, horizontal markets are often well-suited to sell indirect inputs or MROs, items that tend not to be industry specific. Vertical markets, by contrast, are well-suited to sell direct goods that are incorporated into the final product or offered for resale – items that tend to be industry specific. These categories are, however, by no means hard and fast. There are always exceptions. Among the early entrants to the B2B economy was a horizontal marketplace that specializes in conducting reverse auctions that often involve the sale of highly-engineered direct inputs. And vertical marketplaces may offer indirect, as well as direct goods, to the industry served.

3. Mechanisms for Establishing Prices of Purchases and Sales

B2B e-marketplaces may offer one or more of several possible price determination mechanisms, with countless variations. This report will briefly address four: catalogs, auctions, exchanges, and negotiations.³⁸ The first, catalogs, is typically a fixed price mechanism; the remainder usually involve dynamic pricing. Through electronic B2Bs, each of these mechanisms may enhance the price transparency of the marketplace. The implications of increased price transparency for efficiencies will be addressed in Part 2, and its implications for antitrust concerns

³⁶ Kinney (Stmt) 20.

³⁷ Additional organizational structures for marketplaces include “diagonal” marketplaces, which “support a specific type of buyer or a specific type of product category across multiple industries.” Baker & McKenzie (Stmt) 5. For example, a diagonal marketplace might support the “purchase and sale of electricity, natural gas, and liquefied fuels in Latin American markets.” *Id.* “Regional horizontal” marketplaces “serve[] a community’s businesses and non-profit institutions of all kinds and sizes, capitalizing on local cohesiveness.” Such a marketplace would focus on industries with an inherently regional focus and build upon their “standing in the community to create a marketplace that serves the unique needs of a wide range of regionally or locally focused entities . . . regardless of industry.” energyLeader.com (Stmt) 6. Regional procurement markets could, for example, serve regionally focused entities such as utilities, hospitals, and universities. *Id.*

³⁸ Regardless of the specific mechanism for establishing price, transactions usually assume one of two forms: those made through short-term and long-term contracts. The former, also called a “spot market,” encompasses ad hoc purchases such as those made to meet unanticipated needs. Lucking-Reiley 453. *See also* Dupont 267-68.

will be addressed in Part 3.

a. Catalog

Some B2Bs use catalog aggregators, or “metacatalogs,” to normalize, or standardize, product data from multiple vendors so that buyers can easily compare it.³⁹ The Internet allows catalogs to present extensive product information to an extent never before readily available, including multimedia content such as photographs and videos.⁴⁰ Once online, the pricing in catalogs can be revised with relative ease.⁴¹

For example, equalFooting standardizes and aggregates the data of a half dozen of the top MRO distributors, as well as others such as office supplies distributors.⁴² Another B2B, HotOfftheWire, provides a catalog of consumer goods targeted to small and midsize retail stores.⁴³ MetalSite, a B2B serving the metals industry, contains catalog purchasing as an option, although MetalSite’s founder characterized the purchasing requirements of the metals industry as not being entirely amenable to presentation through catalog.⁴⁴

Purchases using a B2B electronic catalog often follow the following steps, examining in sequential order:

- “(i) a home page, allowing the buyer to choose from any of the following: the placement of a new order; tracking of an existing order; view of order history; and view detailed information of an order.
- (ii) the product catalog, where the buyer may search, for example, by

³⁹ Morgan Stanley Dean Witter (*The B2B Internet Report: Collaborative Commerce*, April 2000) 315. *See also* Zaad (23-24) (characterizing the fact that a single B2B catalog may contain the catalog items from many suppliers as the “essence” of the entire system).

⁴⁰ Kinney 29.

⁴¹ Morgan Stanley Dean Witter (Stmt) 30 (“Moving the catalog online makes it dynamic; suppliers don’t have to wait for the next printing of a paper catalog to change products and prices.”). *But see* OESA (Stmt) 7 (“If the procedures required to add a new product [to a uniform product catalogue used in a B2B] are sufficiently onerous, participants would be unlikely to invest in developing new products because there would effectively be no market for them.”).

⁴² Kim 154-55.

⁴³ Sullivan 252.

⁴⁴ Stewart 55 (noting that metal is a “highly attribute-based product” that has to be defined and described), 66.

- manufacturer, name, product category and end-use category.
- (iii) a page showing the results of the buyer's search, including quantities and [prices; the buyer can then select the specific goods to be purchased] . . .
 - (iv) a 'shopping cart', displaying selected products, and allowing the buyer to modify quantities, shipment address, and billing location, and to delete the order.
 - (v) a price quote page, indicating the prices and shipping charges for the products in the 'shopping cart.'
 - (vi) confirmation of order."⁴⁵

Workshop participants also pointed out that sellers can customize price lists to reflect agreements reached with specific buyers but ensure that those prices can be viewed only by the intended buyers. As one panelist said, negotiated prices are frequently viewed as a form of proprietary information. A buyer and seller may want to retain what is essentially a private relationship even though they have moved the relationship to a public infrastructure.⁴⁶

The catalog as a pricing mechanism appears to be “[p]articularly appropriate for the sale of low-priced items bought frequently in small quantities.”⁴⁷ That is because these items are “too low-priced to justify negotiation.”⁴⁸ Thus, though the prices may be customized, they are usually fixed.⁴⁹ This is consistent with the fact that many of the workshop participants discussed their experiences with catalogs within the context of MROs.⁵⁰ There are no hard and fast divisions, however. One panelist discussed how companies had used auctions to establish the prices for indirect materials, which were then placed in catalogs for the specific buyer at the auction-

⁴⁵ Baker & McKenzie (Stmt) 4-5. During the workshop, two demonstrations were given of catalog purchasing on a B2B e-marketplace. *See* Zaad (21-32); Fromer (42-47).

⁴⁶ Phillips 300. *See also* Verloop 380 (discussing catalog system with “active pricing” whereby seller can dictate who sees the pricing); Haines 379 (buyer can either select a “fairly broad view or the universal view of the catalog” which would permit comparative pricing or “filter” their view to something more narrow such as a brand-specific view); Stojka 381 (“private catalogs and private auctions are really what buyers and sellers want”).

⁴⁷ Baker & McKenzie (Stmt) 4-5. *See also* Kinney (Stmt) 9. *But see* Morgan Stanley Dean Witter (Stmt) 88 (noting that in much the same way prices can be customized, it is possible that customized products – which are typically direct goods – may become custom lines in catalogs).

⁴⁸ Morgan Stanley Dean Witter (Stmt) 28.

⁴⁹ *See, e.g.,* Morgan Stanley Dean Witter (Stmt) 28; Lucking-Reiley 437.

⁵⁰ *See, e.g.,* Arnold 151; Knight 250; Harting (Stmt) 17.

determined prices.⁵¹

b. Auction

The various forms auctions can assume in the offline economy are being transplanted to the online economy. A forward auction, also known as a forward English auction, "let[s] multiple buyers bid competitively for products from individual suppliers."⁵² Forward auctions are seller-driven auctions, with prices moving up as a result of bidding among the buyers.

A reverse English auction is a buyer-driven auction that lets multiple sellers bid competitively to provide product to individual buyers. Prices move down.⁵³ Preparation for a reverse auction usually takes the form of a buyer issuing a "request for quotation" in which product specifications and commercial terms are presented.⁵⁴ The buyer identifies which sellers it wants to participate in the auction. Within the context of direct inputs, depending on the importance of the seller's product as an input to the buyer's ultimate finished product, such prequalification may take on particular significance.⁵⁵ Suppliers prepare their bids and submit them during the auction itself, with the option to move their prices down as bidding proceeds. A reverse auction may be organized such that the lowest bid does not automatically win. A buyer may award the contract to a bidder quoting a higher price if the difference is worth it because of quality, location, or other such considerations.⁵⁶

Auctions are "[p]articularly appropriate for items that are unique and differentiated but simple to describe and understand."⁵⁷ The good in question and the structure of the marketplace will invariably influence what form the auction should take. One critical question is what

⁵¹ Kinney 162.

⁵² *Id.* An English auction is distinguishable from either a Dutch or Japanese auction. A Dutch auction involves "one seller and many buyers in which the auctioneer reduces the price (from a high starting point) until a bidder agrees to buy at that price." Morgan Stanley Dean Witter (*The B2B Internet Report: Collaborative Commerce*, April 2000) 315. In a Japanese auction, which also involves one seller and many buyers, the "auctioneer raises the price (from a low starting point) and buyers must bid at each price to stay in the auction." *Id.*

⁵³ *Id.* at 8. During the workshop, three demonstrations of reverse auction were given. *See generally* Kinney 81-91.

⁵⁴ Kinney 79.

⁵⁵ *Id.* at 80.

⁵⁶ *Id.* at 84.

⁵⁷ Baker & McKenzie (Stmt) 7.

information is to be shared, among whom, and for what purpose. For example, the format of different reverse auctions demonstrated during the workshop varied depending upon market concentration in the supply market. In a relatively unconcentrated market, the bidders could see the bids (which were labeled by aliases rather than business name).⁵⁸ In a more highly concentrated industry, the auction was conducted according to a rank bidding format.⁵⁹ The bidders could not see the current price being bid; instead, each could see its own bid and its rank. This was done to “limit the amount of feedback to prevent suppliers from learning enough to signal each other in the future.”⁶⁰

c. Exchange

An exchange is a "two-sided marketplace where buyers and suppliers negotiate prices, usually with a bid and ask system, and where prices move both up and down."⁶¹ B2B exchanges are typified by anonymous, real-time matching of orders and quotes comparable to that which occurs on a traditional securities exchange. This pricing mechanism is ideal for commodities or commodity-like products. Such highly standardized products are traded constantly and may experience extreme volatility.⁶² One workshop participant characterized B2B exchanges as no different than trading through “pits with the open outcry” such as the Chicago Board of Trade, except that “you do it over the electronic network.”⁶³ An example of such an exchange is Currenex, a currency exchange that links banks and corporations.⁶⁴

d. Negotiations

Negotiation refers to any number of arrangements, such as Requests for Proposals, whereby the B2B consolidates and compares information regarding specific requests, followed by negotiations between the potential participants to the transaction.

The process that Requests for Proposals frequently take is:

“(i) seller posts a profile or proposal.

⁵⁸ Kinney 82.

⁵⁹ *Id.* at 88-90.

⁶⁰ *Id.* at 90.

⁶¹ Baker & McKenzie (Stmt) 7.

⁶² Harting (Stmt) 16-17.

⁶³ Allgaier 142.

⁶⁴ Mirek 140-41.

- (ii) buyer searches by requirements, and is shown all sellers with posted profiles or proposals meeting those requirements.
- (iii) buyer chooses a seller, and advises that seller of its requirements.
- (iv) seller, if interested, then responds to that buyer, and seller and buyer negotiate directly with each other.”⁶⁵

4. Ownership and Control

As with most other aspects of B2B marketplaces, a review of current ownership structures reveals both that they defy easy categorization and that they are continuing to evolve. On the most basic level, distinctions are typically drawn between ownership by industry participants, that is, the companies that plan to use the B2Bs, and ownership by non-industry participants, such as venture capitalists or technology firms. Within the context of industry participant ownership, further distinctions are drawn between whether it is a buyer-participant or seller-participant. Types of contributions each of these groups can make are relatively clear: buyers and sellers contribute liquidity, venture capitalists contribute funding, and technology firms contribute functionality.⁶⁶

Ownership by non-industry participants or third-parties characterized many of the first entrants into B2B e-marketplaces.⁶⁷ Such marketplaces are sometimes referred to as “independent,” though that appellation is itself the source of considerable debate. Several panelists strongly endorsed this third-party model as being essential to providing a fair and neutral marketplace.⁶⁸ For example, one panelist asserted that a third-party has “a natural incentive to maximize the profitability of the exchange, which means satisfying both the demand and supply side requirements.”⁶⁹ Other workshop participants rejected that premise, insisting instead that any marketplace has the incentive to act fairly and neutrally, since that is the best way to encourage broad participation in the marketplace.⁷⁰

At the other end of the spectrum from third-party B2Bs are consortium B2Bs. Such B2B marketplaces, also termed coalition markets,⁷¹ are founded and owned (at least in part) by

⁶⁵ Baker & McKenzie (Stmt) 6.

⁶⁶ Harting (Stmt) 8.

⁶⁷ *Id.*

⁶⁸ *See, e.g.,* Mirek 172; IPPN (Stmt) 1; Kim 197-98.

⁶⁹ Mirek 190.

⁷⁰ *See, e.g.,* Gray 204; Walsh 366-67; Strojka 364-65.

⁷¹ Clark 362.

industry-participants; they most often are either buyer-led or supplier-led but may include both buyers and sellers. Some argue that such ownership interests are essential for the success of a B2B. According to that argument, ownership by industry participants is essential both because they can support, financially and otherwise, development of the infrastructure, software, databases, and functionality that e-marketplaces require, and because their involvement guarantees that they will use the B2B for a sufficient volume of transactions to ensure the B2B's liquidity.⁷² Such arguments were questioned.⁷³

Falling between these two extremes are any number of ownership structures.⁷⁴ For example, some B2B marketplaces are owned in part by buyer-participants.⁷⁵ Still others are owned in part by seller-participants.⁷⁶ Some B2Bs have ownership by both buyer and seller-participants.⁷⁷ Some B2Bs recognize the possibility that their policy regarding equity holders could change. For example, BuyProduce has turned down requests from industry participants to hold equity.⁷⁸

A concept closely related to ownership is that of control. Control, whether understood in terms of board membership or operational, day-to-day management, is typically related to ownership. However, some B2Bs are adopting strategies that separate control from ownership to

⁷² See, e.g., van Breen 191, 207; Spradlin 316-17; Gray 208.

⁷³ See, e.g., Brodley 575-76 (described the argument that B2Bs require groups with market power, especially as it pertains to raising capital, as not being "very convincing"); Kinney 211-12 (questioned, "Why do you need to be working in an exchange that's . . . explicitly co-owned with you and some of your horizontal competitors in order to do what you've been able to privately for years?"). See also Foer (Stmt) 1 (characterizing the motivation behind established companies to create consortium B2Bs as "reduc[ing] or eliminat[ing] the possibility that their industry will be served online by independent start-up[s]").

⁷⁴ See, e.g., Spradlin 314-15.

⁷⁵ Haines 349-50. (Buyer-participants hold equity in FacilityPro, but FacilityPro has turned down sellers who wish to buy equity in it. While she believes that active participation of both buyers and sellers is "one of the characteristics of a successful marketplace," she also believes that "it would be difficult to have equity participation on both sides." *Id.*)

⁷⁶ VerticalNet's paintandcoatings.com is a joint venture with Eastman Chemical Co. where Eastman (Walsh 352) also acts as a supplier on the B2B. See www.paintandcoatings.com/content/homepage/default.asp (last visited October 18, 2000).

⁷⁷ See, e.g., Roberts 355-56.

⁷⁸ Verloop 345-46 (noting, however, that "[t]hat's not to say in the future that [BuyProduce] won't come up with some type of a [participant-owner] model").

some degree. For example, one consortium B2B is creating its management team “from mostly companies who are not part of those ownership companies.”⁷⁹

5. Revenue

B2Bs may compensate owners and operators, and potentially even participants, from a variety of sources, including transaction-related fees, membership fees, service fees, advertising and marketing fees, and fees for data or information. Moreover, many predicted that a B2B’s reliance on any particular revenue source may change as the B2B market matures.⁸⁰

a. Transaction-Related Fees

Transaction-related fees, or trading fees, may be charged per transaction, as a flat fee for a set number of transactions, on the basis of transaction value, or as a percentage of savings resulting from the trade. Whether the buyer or the seller is likely to pay the fees depends on the circumstances. Likewise, the size of the fee may vary among industries. “The most frequently traded and highly standardized goods, such as energy and petrochemicals, are associated with the lowest transaction fees.”⁸¹

One panelist noted that although transaction fees are currently the major source of revenue for his B2B, these fees will likely disappear: “Transaction fees will become like email, it will be free eventually.”⁸² Another participant agreed that, as B2B marketplaces become more competitive, the competition will push transaction-related fees “towards zero.”⁸³

b. Membership Fees

Membership fees, or subscription fees, are typically paid up front or at certain intervals (e.g. annually) to participate on a marketplace. A membership fee may function as a type of sunk cost and, as such, may have implications for switching costs.

⁷⁹ Gray 361.

⁸⁰ *See, e.g.*, energyLeader (Stmt) 7-8; Harting (Stmt) 19-20; Morgan Stanley Dean Witter (Stmt) 40-1.

⁸¹ Harting (Stmt) 4.

⁸² Verloop 420-21.

⁸³ Clark 419-20.

c. Service Fees

Service fees are fees for additional functionality that B2Bs may offer either directly or indirectly. Value-added services that B2Bs are offering include logistics (e.g. shipping services); systems integration (e.g. coordinating legacy systems with B2Bs); financial services (e.g. credit assessments); and industry information (e.g. identification of new products and services, various trade-industry events, links to useful sites, news feeds pertaining to the industry, chat rooms).⁸⁴ B2Bs may provide value-added services themselves, or may receive a portion of the fee collected by third parties that the B2B permits to supply services through its e-marketplace. Several panelists asserted that service fees for value-added services will dominate over membership and transaction fees as the primary source of significant revenue.⁸⁵

d. Advertising and Marketing Fees

Advertising on B2Bs can take many forms including “banner advertising” or “opt-in e-mail marketing.”⁸⁶ The value of such advertising stems from the ability to target key purchasing decision-makers. B2Bs, like trade publishing, trade shows, and trade conferences, represent a means to achieve such targeted marketing. As one panelist explained, “there are really only about 100,000 buyers and [suppliers] in the pollution control business domestically, for instance, and we get about 30 to 60 percent of them in a given month to come multiple times to our site to get information, [so] we sell access to those eyeballs . . . [T]here are very robust revenue streams in advertising and promotion.”⁸⁷ A related revenue source is “listing (or hosting) fees,” which suppliers typically pay “to have a storefront” (a separate, supplier-specific segment) within a given marketplace.⁸⁸

⁸⁴ Harting (Stmt) 9-10.

⁸⁵ See, e.g., Harting (Stmt) 4; Verloop 420.

⁸⁶ Baker & McKenzie (Stmt) 13. Opt-in e-mail marketing refers to “sending e-mail messages to those who have opted to receive them.” *Id.* One panelist noted that her customers, small businesses, are extremely concerned about online privacy. Buyers on her B2Bs do not want to be deluged with junk mail from suppliers who received information about the buyer from the exchange. Kim 182. Another panelist, also characterizing this as a consumer privacy issue, noted that “in a lot of respects it would be nice to get more targeted advertisements.” Knoll 182.

⁸⁷ Walsh 421-22.

⁸⁸ Baker & McKenzie (Stmt) 13.

e. Data or Information Sales

The accumulation of composite transaction or other market data by B2Bs was viewed as having tremendous value. Historically, such data typically would only have been available through sources such as vendors, competitors,⁸⁹ or middlemen. Now, if a B2B had adequate liquidity, it could accumulate detailed data regarding many aspects of particular chains of commerce. In theory, the data might be sold in aggregate form.⁹⁰ As one panelist noted, the information gathered at the B2B in the course of transacting millions of transactions may yield “overall statistics” that could be extremely valuable.⁹¹ As an example, he noted that pipe mills “make or break themselves by knowing when to run their mill.”⁹² If there were an annual auction for blocks of mill space, and if that information were accumulated over time, it would be of immense value to buyers and suppliers of mill space, as well as potential third parties seeking to offer additional services, because each of those entities could plan its activities more efficiently.⁹³

Another example involved a B2B functioning as an intermediary between chain restaurants and food distributors; the B2B takes orders from the restaurants and then “shoot[s] them out to the right distributors.”⁹⁴ The B2B is then positioned to determine different buyers’ preferences, repackage that information (which necessarily involves aggregation), and sell it to the food manufacturers. The manufacturers then have better information on how to improve their products.⁹⁵ One specific example of current data sales involves European flower markets. A B2B accumulates sales price data for each flower on a daily basis and sells that information to a wire service, which makes it available internationally.⁹⁶

Despite reservations about sharing individual transaction data, many buyers suggested that they would share aggregate data among various buyers. For example, Petrocosm offers aggregate buyer information to other buyers only if the contractual relationship between the participant and

⁸⁹ Morgan Stanley Dean Witter (Stmt) 101.

⁹⁰ *Id.*

⁹¹ Gray 230.

⁹² *Id.* at 229-30.

⁹³ *Id.*

⁹⁴ Clark 402.

⁹⁵ *Id.* See also, Morgan Stanley Dean Witter (Stmt) 101.

⁹⁶ Clark 401-02.

marketplace allows the sharing of aggregated data.⁹⁷ Likewise, information about buyers is aggregated and shared among buyers at FacilityPro.com.⁹⁸ In the B2B electronic marketplaces designed by energyLeader.com, “data may . . . be aggregated by marketplace personnel in a manner that does not reveal any one buyer’s activities, e.g., for purposes of negotiating volume discounts.”⁹⁹

One panelist noted that companies consider “their transactional record[s] as part of their trade secrets, as part of their proprietary intellectual property.”¹⁰⁰ Accordingly, it is necessary for B2Bs to address whether they are “custodians” of the data or “owners” of the data.¹⁰¹

6. Access to Information

Information on specific and aggregate transactions, supplier prices, buyer purchases, and other confidential or proprietary information could potentially be accessed by a B2B’s participants, owners, management team, employees, or board of directors. Many workshop panelists suggested that each marketplace handles issues of information sharing differently, and that typically either the board of directors or management decides how to use this information.¹⁰² Other panelists observed that a marketplace’s operating rules may control how information is used,¹⁰³ or the contractual arrangement that each participant has with the marketplace may govern the confidentiality of transaction data or other proprietary information.¹⁰⁴ Thus, whether participants, owners, management, employees, or the board of directors has access to confidential or proprietary information depends on the B2B marketplace’s rules on how information is shared or secured.¹⁰⁵

⁹⁷ Gray 400.

⁹⁸ Haines 380.

⁹⁹ energyLeader (Stmt) 11.

¹⁰⁰ Chen 235-36.

¹⁰¹ *Id.* at 236.

¹⁰² Mirek 234-35.

¹⁰³ Gray 204.

¹⁰⁴ Gray 383.

¹⁰⁵ Practices vary. *See, e.g.*, Stojka 381-83 (in Commerx, in which strategic investors are limited to one percent ownership interests, detailed information may be available to management and board members, but an unwritten rule prevents the information from flowing to participant-owners); Gray 361-62 (in Petrocosm, an industry-owned consortium marketplace, the board and

Some panelists suggested that whether a marketplace's owners or managers should access buyer and supplier transaction data would depend upon who owned the marketplace. For example, in theory, seller owners and managers could receive an "unprecedented level of information about the complete activities of the customers in the marketplace" – whether the seller participates in a given transaction or not.¹⁰⁶ These owners could have an "unprecedented ability to monitor prices in realtime" – they would know each other's bids and prices instantly.¹⁰⁷ One of the dangers that could arise from a marketplace led by a coalition of sellers would be for the owners to "frontrun" the market, *i.e.*, discover buyers' confidential needs and raise the price accordingly. For example, if a B2B allowed sellers to know that a buyer will need "a certain large barge of chemicals within one week . . . instantly the prices of that chemical will go up 25 to 30 percent."¹⁰⁸ This could occur if the sellers were to have access to real-time and macro-level information (*e.g.*, customer trading patterns, pricing or demand trends) that provided them with extensive information regarding each other's pricing.¹⁰⁹

With respect to sharing information among B2B participants, some workshop panelists suggested that if participants become concerned that too much information is shared, the market will quickly self-correct.¹¹⁰ Others were more skeptical regarding the prospects for self-correction.¹¹¹

management will not have access to participants' proprietary information); Roberts 384 (announcing plans to bar M-Xchange's board of directors from receiving proprietary information from the exchange).

¹⁰⁶ Mirek 188.

¹⁰⁷ *Id.* at 199-200.

¹⁰⁸ Shridharani 185; *see also* Mirek 188.

¹⁰⁹ Currenex (Stmt) 2.

¹¹⁰ *See, e.g.*, Walsh 385-86 (If a particular B2B marketplace allows too much information to be shared and "unduly harms the buyer, or if . . . the buyers share too much information and unduly hammer down the prices of the seller," the problem will self-correct at the "Internet's speed," much faster than the problems in "real world" economies that take "years and sometimes decades to correct."); Verloop 393 (the Internet punishes a B2B "doing unfair pricing practices" faster, making for "a self-correcting marketplace overnight rather than having to wait a couple of months"); energyLeader (Stmt) 10 ("The B2B world is an increasingly competitive one in which credibility is important, and in which news of unfair practices will travel quickly, with devastating consequences to the practitioner.").

¹¹¹ Foer 566 (conflicting information regarding whether self-correction is unusually rapid and can be counted upon). *See also* Ernst & Young (Stmt) 1-2 (based on its understanding of B2B participant concerns, advocating adoption of comprehensive public standards regarding the

7. Barriers to Entry, Network Effects, and Intellectual Property Issues

Many workshop panelists noted that B2B electronic marketplaces are proliferating now at a rapid pace.¹¹² One industry analyst expects to see 2,000 marketplaces by the end of 2000 and 5,000 by the end of 2002.¹¹³ This rapid pace, however is not expected to last, as the industry moves into a phase in which various B2B electronic marketplaces will consolidate and differentiate.¹¹⁴ Industry analysts offered varying opinions as to how far consolidation would ultimately reach.¹¹⁵

Other workshop panelists predicted that although marketplaces eventually will consolidate, there will be many segments and tiers within any specific industry,¹¹⁶ and that there will be many niche players within each industry.¹¹⁷ Moreover, if there is interoperability among marketplaces so that buyers and sellers conduct transactions not only within any one B2B but across multiple B2Bs (also known as exchange-to-exchange commerce), there is a possibility that there will be specialists competing for business from a number of marketplaces.¹¹⁸

The course of development will be greatly affected by the extent of entry barriers into the market for B2B marketplaces. One workshop panelist stated that B2B electronic marketplaces are proliferating now because barriers to entry are low, thus enabling multiple marketplaces to emerge.¹¹⁹ Another suggested that if a start-up B2B offers only limited functionality, such as catalog purchasing or auction capabilities, it does not take much transaction volume or liquidity

control of competitive information within B2Bs).

¹¹² See, e.g., Gray 412; Jasinowski 556; Rule 561-62.

¹¹³ Morgan Stanley Dean Witter (Stmt) 17.

¹¹⁴ See, e.g., Shridharani 214 (economies of scale and network effects drive consolidation).

¹¹⁵ Compare Harting 415 (suggesting there will be two B2B electronic marketplaces within each relevant product market and relevant geographic market) with Gray 414 (suggesting the number would be five).

¹¹⁶ Shridharani 214.

¹¹⁷ Gray 213.

¹¹⁸ Kinney 209.

¹¹⁹ Harting (Stmt) 21.

for that marketplace to become competitive.¹²⁰ And one commentator noted that start-up costs for B2Bs with “basic functions” are falling as more standardized software becomes available, and that outsourcing infrastructure to a technology provider can make it possible to “get up and running fairly quickly” because barriers to entry are low.¹²¹

On the other hand, testimony by a number of panelists suggested that barriers to entry are getting higher as additional B2B electronic marketplaces become operational and begin to offer more complex services. Many of the workshop panelists emphasized that the most important requisite for the survival of a B2B marketplace is to have sufficient transaction volume.¹²² Transaction volume – or liquidity – is necessary for the marketplace to cover its operating and developmental costs,¹²³ and it is best accomplished by attracting additional participants to the marketplace.¹²⁴ In addition, volume or liquidity drives down transaction costs, which then attracts additional participants.¹²⁵ And once the marketplaces have volume, panelists predicted, they will begin to compete on the basis of additional supply chain services.¹²⁶

Moreover, many panelists suggested that the development of multiple marketplaces serving any one industry will be affected by the nature and magnitude of network effects¹²⁷ in each particular industry. One panelist observed that in B2B marketplaces, network effects are present where the more buyers there are in a particular marketplace, the more likely any given seller will be able to find a buyer and get a good price, and likewise for buyers being able to

¹²⁰ Gray 413.

¹²¹ Morgan Stanley Dean Witter (Stmt) 41, 74, 77.

¹²² *See, e.g.*, Mashinsky 294 (marketplaces want as many buyers as possible); Gray 208 (transaction volume (or “spend”) of \$10 billion is necessary to pay for the creation of the infrastructure); Kinney 209 (a breakeven transaction volume of \$6 billion may be possible).

¹²³ van Breen 191.

¹²⁴ *See, e.g.*, Dupont 317, Gray 344 (“To accomplish getting more volume through the system, you have to have more participants.”).

¹²⁵ Arnold 220.

¹²⁶ Parker 431-32; Glover 445.

¹²⁷ Network externalities, or network effects, are present to “[w]hen the value of a product to one user depends on how many other users there are.” Carl Shapiro & Hal R. Varian, *Information Rules* (Harv. Bus. Sch. 1999) 13.

purchase necessary goods and services with more sellers in the marketplace.¹²⁸ To the extent that network effects create significant advantages for large incumbent B2Bs, entry could be impeded.

One commentator observed that independent B2Bs are finding it harder to locate necessary capital when an industry consortium forms a B2B aimed at the same market the independent B2B plans to serve. Suppliers of venture capital tend to assume that the industry coalition model will capture the liquidity necessary for a successful marketplace.¹²⁹ In addition, some panelists indicated that antitrust laws that vary from country to country can amount to an entry barrier for B2B marketplaces, which conduct business without respect to national boundaries.¹³⁰

a. Incentives Used to Attract and Retain Volume

One panelist suggested that industry ownership provides both economies of scale and economies of know how and information,¹³¹ and workshop panelists observed more generally that many marketplaces have offered equity investments to leading buyers or suppliers to generate critical mass in a marketplace.¹³² Indeed, the CEO of Metalsite suggested that having industry ownership is one of the reasons why the marketplace is still operational.¹³³ The equity can be offered in exchange for market participants' commitment to provide a certain level of volume.¹³⁴ Others workshop panelists asserted that offering equity to marketplace participants appears to occur in markets that are concentrated with fewer buyers and sellers, rather than in markets that

¹²⁸ Sunder 427. *See also* Rule 559 (network effects are present in that information provided by these marketplaces will be more valuable and accurate with a larger number of buyers and sellers); Guerin-Calvert 433; energyLeader (Stmt) 12-13 (“The attractiveness of the marketplace to the seller is often a function of the extent to which the marketplace is used by the seller’s major buyers. . . . Sellers who wish to continue their relationships with these buyers will want to participate in the marketplace.”).

¹²⁹ Clark 363. Nonetheless consortium B2B marketplaces could fail if long-time competitors find it difficult to work together. *Id.*; *see also* Heymann 368-69.

¹³⁰ *See, e.g.*, Krattenmaker 578; *cf.* Foy (Stmt) 2-6.

¹³¹ Krattenmaker 546.

¹³² Kafka 222-23 (equity gives incentive to use the exchange and thereby generate critical mass); Gray 225 (giving equity one way to drive for liquidity).

¹³³ Stewart 70.

¹³⁴ Kafka 219.

are fragmented and in which there are more buyers and sellers.¹³⁵

In addition to equity, other workshop panelists suggested that other ways to entice volume to a marketplace are to provide volume discounts to incentivize buyers and suppliers to use a marketplace,¹³⁶ to establish rebates or revenue-sharing devices in return for commitments to achieve certain volume levels,¹³⁷ or to present information that highlights a particular marketplace participant.¹³⁸ On this last point, one workshop participant disagreed and suggested that information presentation does not account for much given the transparent and self-correcting nature of these marketplaces.¹³⁹

b. Requirements Used to Obtain and Retain Volume

Several workshop panelists suggested that “contractual coercion” might be used to require market participants to participate in a certain marketplace.¹⁴⁰ For example, one workshop participant suggested that some marketplaces are prohibiting their investors from making equity investments in or forming other B2B marketplaces, although such marketplaces are not prohibiting the investors from buying through other marketplaces.¹⁴¹ Others suggested that minimum volume commitments or minimum percentage requirements could be used.¹⁴²

Other panelists suggested that “benign coercion” was being used to “encourage”

¹³⁵ Shridharani 224 (equity seeds liquidity in a concentrated market, not so much if a fragmented market); Harting 348 (big buyers and sellers get equity in order to induce liquidity in concentrated markets).

¹³⁶ *See, e.g.*, Gray 225, energyLeader (Stmt) 12 (“energyLeader.com may offer incentives to encourage entities to bring a large volume of transactions to the market.”).

¹³⁷ Kinney 220-21 (price based on a “blanket dollar commitment”); Foer (Stmt) 2.

¹³⁸ Kafka 195; Walsh 366 (Sabre system provides an example of information presentation issue).

¹³⁹ Harting 372.

¹⁴⁰ *See, e.g.*, Simkins 409-10 (contractual provisions or other exclusivity practices may be used that limit participants' flexibility and prevent them from "go[ing] where their best economic judgment dictates that they should go").

¹⁴¹ Perlman 567-68.

¹⁴² *See, e.g.*, Cooper 571.

participation in various marketplaces.¹⁴³ Indeed, one panelist stated that the pressure on buyers and sellers to participate in marketplaces when large players have affiliated on the other side of the transaction contained an “element . . . of intimidation.”¹⁴⁴

On the other hand, some panelists suggested that it is unnecessary to use or require exclusivity to attract volume and that exclusivity is not required in many marketplaces.¹⁴⁵ Others suggested that many buyers want to use more than one marketplace,¹⁴⁶ and that exclusivity is not imposed on sellers because buyers want a choice of brands in a fragmented market.¹⁴⁷ In addition, some panelists suggested that exclusivity is used only for small portions of volume or for a limited period of time.¹⁴⁸

c. Intellectual Property Issues

Several panelists indicated that the development of multiple B2Bs serving any one industry could also be affected by how intellectual property issues are handled. For example, the same transparency that enables a company to sell its product faster could possibly enable a competitor to “understand how I make a product that differentiates [my product from other products] . . . and giv[es me] a market lead.”¹⁴⁹ Thus, the first question of many suppliers is will they lose their intellectual property through participation on a B2B?¹⁵⁰ Within the context of a concentrated market, one panelist noted that suppliers also provide a marketplace with “pretty valuable

¹⁴³ See, e.g., Knoll 281 (“benign coercion” used by customers to force sellers to participate in a marketplace); OESA (Stmt) 6 (buyers could force not just suppliers, but suppliers’ suppliers, to join a marketplace).

¹⁴⁴ Shridharani 215-16.

¹⁴⁵ Mashinsky 294 (Arbinet does not require exclusivity, if exchange offers good value, exclusivity not needed); Dupont 302 (exclusivity is not required); and Loevy 304 (exclusivity is rare).

¹⁴⁶ Allgaier 217-18 (participants want to use different exchanges for different purposes or purchases); Kafka 219.

¹⁴⁷ Sullivan 298.

¹⁴⁸ Kinney 220-21 (minimum commitments have been small in percentage terms); Shridharani 224 (exclusivity used for small portions for given periods; not a major issue); Perlman 568.

¹⁴⁹ Attansio 109.

¹⁵⁰ *Id.* at 110.

intellectual property, drawings [and databases,] for example.”¹⁵¹ Given that, the panelist then queried why the business would want to participate unless the business also has a capital interest.¹⁵²

Another panelist stated that the impact of shop-bots on market transparency will be unclear until the intellectual property issues are “sorted out.”¹⁵³ Shop-bots are “metasearch engines” that enable one to search multiple auction sites concurrently. The network effects any one auction site enjoys would be less if sellers can post their products on any number of sites and buyers can have ready access to them.

Analogous issues are being litigated in the B2C e-commerce context where consumer auction giant eBay and auction aggregator Bidder’s Edge have been involved in litigation over the extent to which Bidder’s Edge can use software programs to cull the listings of eBay, similar to the manner in which search engines operate.¹⁵⁴ The role of intellectual property protections has also been raised within the context of commodities exchanges. One panelist noted that the NASDAQ is seeking changes in copyright law to prevent B2B commodities exchanges from accessing their prices and using them without paying any fee.¹⁵⁵

8. Switching Costs and Marketplace Interoperability

The feasibility of participation in more than one marketplace depends in significant part on a participant’s costs to switch between or among marketplaces and whether various marketplaces are interoperable. One workshop panelist observed that large companies will not readily switch from one B2B to another “because they have to invest hundreds of thousands of dollars to do the integration” by “hooking their net marketplace[s] into the back-end systems of the buyers and sellers, [*i.e.*,] into their supply chain and ERP systems[;] once that is done, it’s very hard for a buyer to move to a different location without redoing that whole thing all over again.”¹⁵⁶

Many workshop panelists suggested that one of key factors to using more than one B2B electronic marketplace is whether the marketplaces are interoperable. Although many panelists indicated that currently there is not much technical interoperability among marketplaces,

¹⁵¹ Knoll 308.

¹⁵² *Id.*

¹⁵³ Lucking-Reiley 455-56.

¹⁵⁴ *Id.*

¹⁵⁵ *See infra* Part 1.C.3.a (discussing pricing as proprietary information).

¹⁵⁶ Clark 387-88; *see also* Kinney (Stmt) 5.

interoperability will be important in the future.¹⁵⁷ Buyers may want the ability to select trading partners without being limited by the technology they use.¹⁵⁸ Indeed, as has been suggested, suppliers want to be able to digitize the content of its catalog once and be able to place it on multiple marketplaces without extensive reformatting.¹⁵⁹ It may require not only interoperable technical standards, but also interoperable business standards such as standardized product descriptions.¹⁶⁰ In any case, one workshop panelist cautioned, it may be premature to settle on interoperable standards now and, consequently, to stop innovation.¹⁶¹

* * *

Business-to-business commerce can assume as many forms online as it does offline. Thus, while the building blocks of B2Bs are clear, the ultimate forms that B2Bs will take remains to be seen. Nonetheless, understanding the foundation of B2B marketplaces and certain basics about how they operate is necessary because, as will be discussed in Part 2, it is through the shift from the offline to online world that tremendous gains in efficiency are promised.

¹⁵⁷ See, e.g., Stojka 408 (buyers need to gain access to many B2Bs, and today, “there isn’t a lot of interexchange communication”); Boeth 116 (interoperability issues have not become so painful that companies are screaming yet, but they will become important in the future); van Breen 205-06, 219 (by using a consortium, WorldWide Retail Exchange hopes to achieve an interoperable standard in next few months so that exchanges can be linked in the future).

¹⁵⁸ See, e.g., Knoll 293; Open Buying on the Internet (Stmt) 1.

¹⁵⁹ Fromer 111. Nonetheless, one workshop participant noted that in concentrated markets, interoperability may be of limited value. Knoll 308. In a concentrated market, participation in more than one exchange may require the company give up valuable product-related information. Such a trade-off may be worth it only if the company has a capital stake in the B2B. *Id.*

¹⁶⁰ Tarkoff 120.

¹⁶¹ Kinney 119.