

B u s i n e s s E x c h a n g e s



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his primer is a comprehensive and up-to-date study of business-to-business (B2B) exchanges with an emphasis on understanding what will drive future developments in the industry, based on a review of 49 firms. Part I provides an overview of the drivers behind the explosive growth in B2B exchanges and discusses the emergence of industry leaders as exchange owners. Part II details how B2Bs work in practice, including a review of pricing mechanisms, ownership models, trading rules, revenue models, the competitive dynamic between exchanges, and the limitations of trading anonymity.

Part I: B2B Overview

The explosive growth of B2B exchanges:

- Within three years, B2B marketplaces will achieve significant liquidity and become an integral part of procurement and sales in companies of all sizes and in every major world market.
- B2Bs are bringing markets closer to the ideal worlds described in classical economics textbooks in which commerce is free of transaction costs, information inefficiencies, and geographical limitations.

B2B's roots in EDI

- B2B transactions have been automated through electronic data interchanges (EDIs) for over a decade, but the high cost of establishing these networks made them prohibitive for small and medium sized companies.

First-Generation B2Bs: Independents move first

- Pervasive, low-cost connectivity to the Internet has fueled the boom in B2B marketplaces. Independent exchanges were the first movers.

- Internet exchanges first popped up in industries with both standardized products and technologically advanced legacy procurement systems. These include chemicals, energy, telecom, and electronic components.
- Savings created by first-generation B2Bs have been limited primarily to reduced product costs.

The Second Wave: Independents offer equity to industry leaders

- The second stage of B2B marketplaces was marked by independent exchanges offering equity stakes to large buyers and sellers as incentives to trade and in order to align their interests.

The Third Wave: Industry groups move to create their own B2Bs

- Large industrial companies are clubbing together to create their own digital marketplaces. Although none is up and running yet, these industry-led exchanges have the potential to beat independents because of their built-in liquidity.
- Buyer groups have an advantage because they drive transaction volume, but supplier participation is critical. Industries where suppliers are concentrated may succeed in creating online marketplaces.
- The value proposition for independent exchanges is greatest where they can aggregate demand in industries with highly fragmented buyer and supplier bases.

B2Bs of the Future: Greater functionality and liquidity

- Going forward, transaction volume on B2B exchanges will balloon and their functionality will improve.
- Greater integration between exchange trading platforms and their participants' legacy procurement systems will be a fundamental driver of B2B growth.
- B2Bs of the future will create more savings from reduced process costs than from lower product costs.
- Consolidation among B2B exchanges will be driven by economies of scale, network economies, and technology acquisition.

***B2Bs of the future will
create more savings
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Part II: How B2Bs Work

Pricing mechanisms

- Pricing mechanisms range from dynamic bid-ask matching akin to that which occurs on a traditional securities exchange to complex job processing involving extended pre- and post-transaction service functionality. Which pricing mechanism is used in a given marketplace is a function of the products traded.

Ownership models

- Exchanges owned by participants, technology service providers, investors, and management are the most common. The relative proportion that each stakeholder owns depends largely on the structure of the market in which it operates and the degree of cooperation between buyer and seller groups. The critical question is who creates the liquidity.

Rules

- Exchanges establish rules to mitigate the risk of non-payment or failure to deliver goods as promised. The degree of selectivity varies widely according to the size of transactions and of participants.

Revenue sources

- Exchanges make money by charging for transactions, memberships, value-added services, and advertising space. Going forward, transaction processing will become a commodity, and exchanges will find larger margins by providing ancillary procurement services.
- Transaction fees are a function of volume, frequency, and value-added services. The most frequently traded and highly standardized goods, such as energy and petrochemicals, are associated with the lowest transaction fees.

Consolidation

- Consolidation among exchanges should continue as they rush to build liquidity and buy the best technologies.
- Low barriers to entry together with technology that enables buyers to compare prices across exchanges will sustain competition between exchanges.

- Once consolidation stabilizes, there will be scores of specialized, connected online marketplaces.

Anonymity in transactions: Limits and competitive implications

- Exchanges with dynamic bid-ask matching generally post real-time prices, but most exchanges do not reveal the identity of buyers and sellers.
- Relative anonymity limits the opportunity for price signaling.
- As long as B2B exchanges do not have clearinghouses that take title to the goods transacted, as securities and currency markets do, the identity of buyers and sellers will always have to be revealed at some point in the transaction.

Within three years, B2B marketplaces will achieve significant liquidity and become an integral part of procurement and sales in companies of all sizes and in every major world market.

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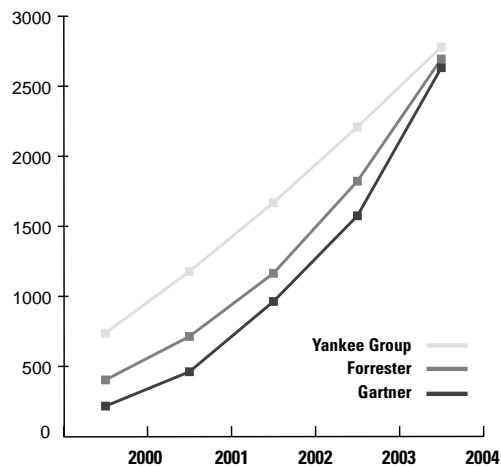
his section provides an overview of the drivers behind the explosive growth in B2B exchanges and discusses the emergence of industry leaders as exchange owners.

The emergence of electronic B2B marketplaces

- Within three years, B2B marketplaces could achieve significant liquidity and become an integral part of procurement and sales in companies of all sizes and in every major world market.
- B2Bs are bringing markets closer to the ideal worlds described in classical economic textbooks of commerce that is free of transaction costs, information inefficiencies, and geographical limitations.

Over the past two years, new electronic business-to-business (B2B) marketplaces have been announced in every significant major industry almost daily. Many are up and running today, but none has yet reached full scale or its promise of seamless integration with ERP systems and ancillary services. Within three years, however, many of these marketplaces could achieve significant liquidity and become an integral part of procurement and sales in companies of all sizes and in every major world market.

U.S. Business-to-Business
e-Commerce Transaction Forecast
2000 – 2004



The rapid and transformative growth of these marketplaces is attributable to the widespread adoption of the Internet, combined with new trading software and lower computing costs. These changes are bringing markets closer to the ideal worlds described in classical economic textbooks, in which commerce is free of transaction costs, information inefficiencies, and geographical limitations. B2B digital marketplaces reduce transaction costs by automating purchasing and sales processes. They reduce information inefficiencies by making prices more transparent and aggregating relevant real-time industry news into one easily accessible place. Geographic limitations are diminished as searching costs are reduced, allowing sellers to find buyers beyond the reach of their traditional sales channels. These improvements are compounded by an economy of networks, in which each new participant creates value not just for itself but for the entire trading web.

EDI: The prelude to Internet-based B2B marketplaces

- B2B transactions have been automated through EDIs for over a decade, but the high cost of establishing these networks made them prohibitive for small- and medium-sized companies.

For more than a decade, large firms have realized tremendous savings by linking with their major suppliers through private electronic communications networks commonly referred to as electronic data interchanges, or EDIs. According to the U.S. Department of Commerce, EDI will support \$3 trillion in economic activity between 250,000 U.S. companies in 2000. These systems automate the procurement process, support automatic inventory replenishment, and tighten the relationship between buyers and their primary suppliers. Major EDI vendors include Sterling Commerce, Harbinger, and General Electric Information Services. Because EDI was originally based on private networks, it required large capital outlays to implement, and adding incremental suppliers was costly. Smaller firms unable to afford these costs are prevented from establishing EDI connections as either buyers or suppliers. Thus, the economic savings accrued from implementing EDIs has been limited primarily to large firms.

The First Generation: Internet-based B2B marketplaces

- Pervasive, low-cost connectivity to the Internet has led to a boom in B2B marketplaces. Independent exchanges were the first movers.
- Internet exchanges first popped up in industries with both standardized products and technologically advanced legacy procurement systems. These include chemicals, energy, telecom, and electronic components.
- Savings created by first-generation B2Bs have been limited primarily to reduced product costs.

EDI demonstrated the substantial savings opportunity from connecting buyers and suppliers over networks and automating business-to-business transactions. Access to the Internet—an inexpensive, pervasive public network—lowered the bar for both small and large firms to connect electronically with their counterparts for a fraction of the cost of a traditional EDI system. Growing adoption of the Internet sparked the creation of Net-based trading hubs at a rate of roughly one a day beginning in the third quarter of 1998. By several accounts, there are over 650 business-to-business online marketplaces today.

Although B2B digital marketplaces have been announced in every major industry, those with more frequently traded, standardized products and more technologically advanced legacy procurement systems have been the first to become operational. These industries include chemicals, energy, metals, telecom bandwidth, and electronic components. Basic digital marketplaces for standardized products can create value quickly by allowing buyers to compare prices across a wider range of sellers. In these first-generation marketplaces, prices are posted for comparison, and there is minimal integration with existing systems and processes. The reductions in procurement costs for buyers can be immediate, and sellers can market to new customers previously beyond their reach. Savings achieved in these first-generation digital marketplaces focus almost entirely on reduced product costs. Because traditional procurement systems and processes remain largely unchanged, procurement process cost reductions are minimal.

The earliest first-generation digital marketplaces were established by independent startups such as multi-industry B2Bs VerticalNet and FreeMarkets as well as E-Steel in the steel industry, SciQuest in life sciences, Chemdex in the chemicals industry, and

PlasticsNet for plastics. Many were led by teams with deep industry experience, such as E-Steel, which was founded by Michael Levin, a veteran steel executive who had thirty years under his belt at Titan Industrial Corporation. However, large industrial companies were slower to create marketplaces.

The Second Wave: Buyers and sellers take a stake in independents

- The second stage of B2B marketplaces was marked by independent exchanges offering equity stakes to large buyers and sellers as incentives to trade and in order to align their interests.

Many of the first generation of independent marketplaces set up by entrepreneurs deliberately excluded equity participation from the industrial companies that formed their trading base to preserve both their neutrality and ownership. Many feared that if a large buyer also held an ownership stake in the digital marketplace, sellers and other buyers would be wary of participating on the basis that the large buyer could unfairly influence trading rules or gain access to privileged trading information.

Weighing against a desire for independence is the reality that a digital marketplace’s value is based on its liquidity. That is, companies that trade through digital marketplaces create value for the them. Thus, many marketplaces originally established independently began offering equity stakes to significant buyers or sellers as incentives for participation and in order to

align their interests with the marketplaces’ success. Life sciences B2B SciQuest, for example, remained independent of firms buying and selling on its exchange until October 1999.

Beginning in the fourth quarter of 1999, SciQuest issued warrants to key buyers

First Generation	Second Wave	Third Wave
Characterized by: independent exchanges, in industries with both standardized products and technologically advanced legacy procurement systems	Characterized by: independent exchanges offering equity stakes to large buyers and sellers as incentives to trade and in order to align their interests	Characterized by: large industrial companies club together to create their own marketplaces; buyer and supplier participation is critical



none are currently up and running at full capacity and functionality

and suppliers of scientific products that made non-binding commitments to trade \$5 million annually. It further sweetened the deal by offering warrants based on actual volume traded on SciQuest. Similarly, E-Steel, which was originally financed by venture capitalists and management, has since looked to strategic investors such as Mitsui, GE, DuPont, and Mitsubishi in part to generate greater trading volume.

The Third Wave: Buyers and sellers create their own marketplaces

- In the third phase of B2B development, large industrial companies club together to create their own marketplaces.
- Although none are up and running yet, industry-led exchanges have the potential to beat independents because of their built-in liquidity.
- Buyer groups have an advantage because they drive transaction volume, but supplier participation is critical. Industries where suppliers are concentrated may succeed in creating online marketplaces.
- The value proposition for independent exchanges is greatest where they can aggregate demand in industries with highly fragmented buyer and supplier bases.

General Motors tiptoed into the world of B2B exchanges in 1998 by running some of its purchasing through independent horizontal exchange FreeMarkets. For FreeMarkets, the GM volume was a tremendous boost, and it represented 19% of the B2B's revenue in 1998 and 15% in 1999. The participation of GM, together with United Technologies, which also accounted for a major share of FreeMarkets' trading volume, helped drive the independent exchange's market capitalization to a high of \$10 billion on January 3, 2000.

When General Motors announced that it would abandon FreeMarkets and run its procurement through its own proprietary trading platform, FreeMarkets' shares lost 55% over a two-week period. Its shares are now trading at 80% below its early January high. General Motors, with its \$80 billion in annual procurement, realized that the value it brought to FreeMarkets far outweighed the value FreeMarkets brought to GM by aggregating suppliers.

GM and Ford's parallel announcements on November 2, 1999 that they would each create their own proprietary online procurement exchanges marked the beginning of the third wave of digital marketplace development. In this wave, large industrial players in all major industries have announced intentions to form B2B exchanges, more often than not, by collaborating with their competitors. The GM and Ford announcements are particularly important for three reasons. First, the automotive industry is one of the largest in the world; together, GM and Ford have annual procurement budgets of roughly \$167 billion. Second, the industry is also a leader in supply chain complexity, especially as it pushes proprietary parts manufacturing out to suppliers. Finally, the GM and Ford announcements were among the first by large industrial players, and a barrage of others followed them.

GM and Ford were quick to consolidate their individual exchange initiatives into one industry-wide trading exchange. On February 25, 2000, they announced that rather than pursue separate, individual exchange initiatives, they would join forces and include Chrysler as well. Renault/Nissan have since joined, too.

Whereas the first wave of B2B exchanges was led primarily by independent exchanges, the first and second quarters of 2000 have been filled with announcements, similar to the Big 3 automakers, of industry-wide efforts to create online B2B exchanges. It is important to note, however, that none of the announced industry-led exchanges are up and running at full capacity and functionality yet. All of them will face challenging systems development, integration, and governance issues before they become fully operational.

The following list is a sampling of industry-led exchanges that have been announced to date.

INDUSTRY	EXCHANGE NAME	PARTICIPANTS
Aerospace and Defense	(no name yet)	Boeing, Lockheed Martin, Raytheon, BAE Systems
Automobiles	Covisint	GM, Ford, DaimlerChrysler
Elastomers	ElastomerSolutions.com	Bayer, CK Witco Corp., DSM Elastomers, DuPont Dow Elastomers L.L.C., Flexsys, M.A. Hanna Rubber Compounding and Zeon Chemicals L.P.
Electronics/ Computers/ Telecommunications	e2open.com	IBM, Hitachi, Matsushita, LG Electronics, Nortel Networks, Seagate Technology, Solectron, Toshiba
Energy	Pantellos	21 companies including: Carolina Power & Light, DTE Energy, El Paso Energy, GPU, and Ontario Power Generation, American Electric Power, Cinergy, Consolidated Edison International, Inc., Edison International, Entergy, PG&E, and Unicom
Food, Beverage, and Consumer Products	Transora	50 companies including Coke, Gillette, J&J, Nabisco, Nestle, Novartis, P&G, Pepsi, Unilever
Metals	MetalSpectrum	Alcoa, Allegheny Technologies, Kaiser Aluminum, North American Stainless, Olin, Reynolds Aluminum Supply, Thyssen and Vincent Metal Goods/ Atlas Ideal Metals
Oil	Petrocosm	Chevron, Texaco
Real Estate	Landlord Procurement Exchange	13 companies, including Boston Properties, Brookfield Properties Corporation, Oxford Properties Group
Retail	GlobalNetXchange	Sears, Carrefour, Metro AG, Sainsbury PLC, Kroger
Tire and Rubber	Rubbertnetwork.com	Goodyear Tire & Rubber, Continental AG, Cooper Tire & Rubber, Groupe Michelin, Pirelli SpA, and Sumitomo Rubber Industries, Bridgestone

Most announcements by industry groups have been made by groups of buyers, although exceptions abound. Because buyers generally drive transaction volume, they bring the most value to the B2B table and can therefore command a more important role. But the importance of including suppliers as vital partners in a B2B exchange should not be underestimated. In industries with large supplier concentration and diffused buyers, suppliers can exert more leverage and even start their own exchanges. When complex systems integration issues are involved, exchanges require active involvement by suppliers in systems development and integration. The opportunity for exchanges independent of both buyers and suppliers, on the other hand, is greatest when both buyer and supplier groups are highly fragmented. An independent exchange can add real value by aggregating demand and relevant industry information.

B2Bs of the Future: Growth, consolidation, increased functionality, and internetworking

- Going forward, transaction volume on B2B exchanges will balloon and their functionality will improve.
- Greater integration between exchange trading platforms and their participants' legacy procurement systems will be a fundamental driver of B2B growth.
- Consolidation among B2B exchanges will be driven by economies of scale, network economies, and technology acquisition.

The next stages of the development of online B2B marketplaces will include rapid growth in transaction volume, consolidation of existing and announced exchanges, increased trading functionality, greater integration with legacy systems, and the internetworking of exchanges.

As announcements of intentions to form online marketplaces evolve into working systems, and as existing exchanges become more fully functioning, trading volumes on online B2B marketplaces should grow rapidly and become an integral part of the sales and procurement functions of most medium- and large-size firms.

Consolidation

Greater integration between exchange trading platforms and their participants' legacy procurement systems will be a fundamental driver of B2B growth.

The consolidation of Ford and General Motors' respective independent online exchanges under the rubric of a single industry-wide trading exchange called Covisint is a harbinger of more exchange consolidation to come.

Three factors will drive consolidation among B2B exchanges in the next three years: economies of scale, economies of networks, and technology acquisition.

Economies of scale will induce exchanges to spread their high capital and operating costs across as many transactions as possible. The economy of networks, in which the addition of each incremental participant creates value for all existing participants, will also propel mergers. Taken together, economies of scale and economies of networks suggest that where two exchanges trading the same products exist, consolidating them would reduce overall costs and create more value for participants. The rapid consolidation of what were originally two separate auto exchanges under one umbrella, and the subsequent addition of two other players, is a prime example of these forces at work.

Other mergers and acquisitions will be driven by the need to improve technological capabilities. B2B technology and marketplace provider Ariba's acquisitions of Tradex Technologies, Trading Dynamics, and SupplierMarket.com for their software is an example of this trend. Similarly, chemical marketplace CheMatch purchased industry information portal Petrochem.net for its content and portal presence.

Functionality

Currently, most online B2B marketplaces are limited to click-and-purchase functionality. The next generation of e-marketplaces are moving quickly to deepen their functionality and become fully integrated with inventory management, customer relationship management, credit, and logistics systems. Multi-industry e-marketplace Ventro, for example, is differentiating itself from simple post-and-browse B2B sites by positioning the firm as a procurement service company to which other companies can outsource their back-office purchasing functions. Similarly, Oracle's e-Business Suite integrates Internet-based procurement and exchange functions with marketing, manufacturing, accounting, and human resource software. B2B technology and marketplace provider Commerce One and enterprise software company SAP are following suit with another B2B marketplace software offering that will also integrate a wide range of business functions.

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his section details how B2Bs work in practice, including a review of pricing mechanisms, ownership models, trading rules, revenue models, the competitive dynamic between exchanges, and the limitations of trading anonymity.

Pricing mechanisms: Beyond auctions

- Pricing mechanisms range from dynamic bid-ask matching akin to that which occurs on a traditional securities exchange to complex job processing involving extended pre- and post-transaction service functionality. Which pricing mechanism is used in a given marketplace is a function of the products traded.

Exchanges are not all about auctions. In most industries, the efficiency gains from improving the procurement process may outweigh those associated with auction pricing mechanisms. At present, auctions are used primarily to trade indirect goods, perishables, excess inventory, and used capital equipment. For more strategic purchases that entail closer relationships between buyers and sellers, exchanges play a role in facilitating the procurement process that goes beyond simple price discovery and transaction execution.

Highly standardized products such as bandwidth, natural gas, and electricity lend themselves to dynamic pricing mechanisms because they are traded constantly and experience extreme price volatility. Energy B2Bs Altra Energy and Enermetrix employ dynamic bid-ask matching mechanisms for these reasons.

Products that are also standardized, but trade less frequently, such as rock salt, are more likely to be priced through auctions. FreeMarkets and surplus marketplace TradeOut have moved to establish auction-based markets for such goods. In these spaces, exchange employees actively seek participants for auctions in order to create a market for a given product. The function and value of these exchanges goes beyond simple price discovery and transaction execution.

Pricing mechanisms range from dynamic bid-ask matching akin to that which occurs on a traditional securities exchange to complex job processing involving extended pre- and post-transaction service functionality.

For products that are not standardized and are traded infrequently, request for quotes (RFQs) are more common. Examples of RFQ exchanges are particularly common in the electronic component industry, with B2Bs such as PartMiner.

Products that are standardized but not critical to a company's core business, such as maintenance, repair and operating (MRO) goods, lend themselves to being aggregated into catalogs. Examples of these sites include MRO marketplaces WW Grainger and MRO.com.

In these instances, an exchange can provide value to buyers by helping them compare prices and quality. Because these purchases are relatively small and do not amount to a large proportion of a buyer's overall procurement budget, however, there is less impetus to drive down prices through auctions.

Ownership models

- The most common exchange ownership model is one owned by participants, technology service providers, investors, and management. The relative proportion each stakeholder owns depends largely on the structure of the market in which it operates and the degree of cooperation between buyer and seller groups. The critical question is who creates the liquidity.

The ownership structure of an exchange is generally a function of the value each player brings to the marketplace. Sources of value include cash capital contributions, technology, transaction flow, and management. In highly concentrated industries such as automotive, in which key industry players are collaborating to form an exchange, they command the lion's share of the exchange's ownership because they drive the liquidity. More often than not, however, ownership is more evenly distributed among participants, technology providers, and cash investors.

The relative proportion that each stakeholder owns depends largely on the structure of the market in which it operates and the degree of cooperation between buyer and seller groups. The critical question is who creates the liquidity.

In the case of CheMatch, for example, five investors are participants, two are venture capital funds, and one is the exchange's technology provider. The electronics B2B e2open is owned by buyers Hitachi, Nortel, and IBM, along with suppliers Seagate and Solectron. Technology vendors Ariba and i2 also have a stake, as do venture capital participants Morgan Stanley and Crosspoint Venture Partners.

In a highly fragmented industry, such as agriculture, the value proposition for an independent B2B is clearer. According to the U.S. Census Bureau, agriculture is far and away the most fragmented industry, with nearly 2 million establishments. Because farmers are so fragmented as a buying group, they face a formidable collective action problem in clubbing together to form the sort of buyer-driven industry-wide exchanges that have been formed in more concentrated industries. Farms.com is an example of a B2B that has the potential to create real value for the industry through its portal that aggregates offerings of cattle, chemicals, grain, and real estate.

Exchange trading rules

- Exchanges establish rules to mitigate the risk of non-payment or failure to deliver goods as promised. The degree of selectivity varies widely according to the size of transactions and of participants.

Owners and management establish the rules of an exchange. Many exchanges have established advisory boards as well. These boards can serve as important channels of information from non-owning participants on such matters as system requirements and business practices.

Some of the most important rules of an exchange govern the threshold for participating in transactions. The principal concern is the risk of non-payment or failure to deliver goods as promised. The degree of selectivity varies widely according to the size of transactions and of participants.

At one end of the continuum are sites such as WW Grainger, which offers MRO supplies to any buyer with a credit card. At the other extreme of selectivity, CheMatch requires its participants to have had a \$4 million letter of credit in the last twelve months. In between lie the majority of sites that have some sort of approval process for trading privileges that screens for firms in their respective industries with a reasonable financial track record. Chemdex and PlasticsNet, for example, allow any company to sign up but are selective in allowing trading rights.

How exchanges make money

- Exchanges make money by charging for transactions, memberships, value-added services, and advertising space. Going forward, transaction processing will become a commodity and exchanges will find larger margins by providing ancillary procurement services.
- Transaction fees are a function of volume, frequency, and value-added services. The most frequently traded and highly standardized goods, such as energy and petrochemicals trade, are associated with the lowest transaction fees.

As Morgan Stanley points out in its April 2000 B2B report, the mother of all trading exchanges, the New York Stock Exchange, supports \$7.3 trillion in trading volume but generated only \$101 million in income in 1998. Transaction fees will not go away altogether, but exchanges will have to diversify their revenue sources away from them in order to garner significant margins.

Even as transaction fees come under pressure, the general economics of their pricing structure should continue for the foreseeable future.

Transaction fees are a function of volume, frequency, and value-added services.

The most frequently traded and highly standardized goods, such as energy and petrochemicals trade, are associated with the

Exchanges make money by charging for transactions, memberships, value-added services, and advertising space. Going forward, transaction processing will become a commodity, and exchanges will find larger margins by providing ancillary procurement services.

lowest transaction fees. For example, energy B2B Altra Energy charges 0.05% on transactions and chemicals B2B ChemConnect's rates go as low as 0.1%. Somewhat less liquid products such as specialty gasses, on the other hand, can have transaction fees of up to 2.5% on ChemConnect. For cases of occasional disposal of used capital equipment or perishable materials, exchanges can charge higher fees to sellers. The value created by making a market for these goods is greater, and sellers are often less price sensitive because goods have already been written down or are losing value quickly. FreeMarkets' Asset Exchange and TradeOut, for example, charge sellers 5% of the sale value. Multi-industry B2B VerticalNet's Asset Remarketing business goes beyond making auction markets by providing value-added services such as warehousing, assessment, and inventory reporting and is therefore able to charge 10% on every sale. Similarly, Ventro is moving away from transaction fee-based revenues and toward more value-added services by offering more complete procurement services that include reporting, fulfillment, payment systems, and other back-office integration.

The competitive dynamics between B2B exchanges

- Consolidation among exchanges should continue as they rush to build liquidity and buy the best technologies.
- Low barriers to entry together with shopping bot technology will sustain competition between exchanges.
- Once consolidation stabilizes, there will be scores of specialized, connected online marketplaces.

As discussed in Part I, consolidation is occurring now and will continue as exchanges merge to build liquidity and buy the best technology. Strong as these forces are, though,

Once consolidation stabilizes, there will be scores of specialized, connected online marketplaces.

the end game is not one mega-exchange for all transactions between businesses. A more likely future scenario is one of many specialized, but connected, exchanges. The race for liquidity will drive some exchanges to failure and others to consolidate, but their numbers will stabilize over the next five years.

Economies of scale will also push consolidation but to a lesser extent because technology-related capital costs are unlikely to increase.

The fact that many large industrial companies are participating in multiple B2B exchanges in order to service different product and geographic segments supports the vision of many specialized but connected exchanges in the future. Diversified chemicals company Bayer, for example, owns a stake in ChemConnect, CheMatch, and an exchange in progress led by a consortium of thermoplastics suppliers. Similarly, Dow Chemical has a hand in the same thermoplastics consortium, also owns part of ChemConnect, and has invested in ZoneTrader, an online exchange for the disposition of excess IT equipment. Honeywell joined the World Wide Retail Energy Exchange for energy and myaircraft.com for aircraft parts.

The competitive dynamics between B2B exchanges vying for transaction flow in the same industry and product categories are complex but should ultimately weigh in favor of more competitive markets for goods and services. On one hand, network economies suggest that a single exchange would be the most competitive and beneficial model for all participants. On the other hand, the absence of competition between exchanges in specific product categories could open the door to anti-competitive practices by exchange owners. Unlike networked industries that operate as natural monopolies, such as certain utilities, the network that supports B2B exchanges—the Internet—is public and free. Free access will keep barriers to entry by new exchanges low, providing an important check on the potential for anti-competitive behavior by dominant exchanges. The availability of shopping bot software that enables buyers to search multiple exchanges simultaneously will further strengthen the hand of buyers and sellers vis-à-vis exchange owners. Thus, even though liquidity is king for an exchange's success and concentrations will emerge within industries and product categories, markets will remain competitive. Dominant exchanges will lose to new entrants quickly if they fail to offer competitive pricing and the most advanced value-added services.

Trading anonymity and its limitations

- Exchanges with dynamic bid-ask matching generally post real-time prices, but most exchanges do not post the identity of buyers and sellers.
- Relative anonymity limits the opportunity for price signaling.
- As long as B2B exchanges do not have clearinghouses that take title to the goods transacted, as securities and currency markets do, the identity of buyers and sellers will always have to be revealed at some point in the transaction.

There is no standard yet for what participants in a B2B exchange see about others' actions. For example, two broadband marketplaces, Arbinet and RateXchange, are similar to traditional securities markets in that participants can observe prices in the market but buyers and sellers remain anonymous. Similarly, two major energy exchanges, Altra and Enermetrix, post prices in real time but shield participant identities. In the case of paper B2B PaperExchange, however, prices are not visible to parties outside of the transaction. Post-and-browse catalog sites, such as WW Grainger, list seller identities openly, but buyers cannot observe each other's purchases. Given that these exchanges all shield the identities of buyers and sellers except to parties to the transaction, opportunities for price signaling are limited.

As long as B2B exchanges do not have clearinghouses that take title to the goods transacted, as securities and currency markets do, the identity of buyers and sellers will always have to be revealed at some point in the transaction.

As long as B2B exchanges do not have clearinghouses that take title to the goods transacted, as securities and currency markets do, the identity of buyers and sellers will always have to be revealed at some point in the transaction. Sellers must ultimately learn the identity of their counterparts in order to arrange for shipment, if nothing else. In practice, delivery is one of many issues that arise after the sale that require buyers to reveal their identities. Others include aftermarket service, credit, inspection, and regulatory compliance.

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- WW Grainger
- ZoneTrader

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How KPMG Consulting can help companies with winning B2B solutions

Leveraging its extensive experience, well-established methodologies, and end-to-end solutions, KPMG Consulting is positioned to help companies create or join B2B electronic marketplaces with a full range of strategy, architecture, integration, and support services.

Strategy

KPMG Consulting defines some winning business strategies and implementation plans for companies to participate in B2B exchanges. These strategies help our clients maximize their market opportunities in light of the most recent developments in this fast-changing environment.

KPMG Consulting also provides strategy and implementation consulting services to new exchanges, both independents and those formed by industry consortia. These services can include writing business plans, creating financial models, developing service offerings and pricing strategies, organizational structure, corporate structure, tax reduction, and alliance evaluation.

Architecture and Process

KPMG Consulting designs and develops cutting-edge technology architecture and processes to support winning B2B exchanges across a range of industries.

Development and Integration

KPMG Consulting develops B2B marketplace applications and integrates applications with legacy systems.

Management and Support

KPMG Consulting provides B2B exchanges with a range of operational and technology support services, enabling clients to focus on their core business.

