

The e-Marketplace
Revolution:
Creating and Capturing the
Value in B2B e-Commerce






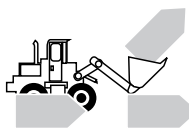
Executive Summary

As significant as the B2B e-commerce opportunity is across industries, many of the e-marketplaces that exist today will fail in the next 12 months because they will chase share at the expense of profitability or fail to gain sufficient market liquidity.

Companies looking to form an e-marketplace should ask themselves three key questions:

- 1) How can we *create* value with our B2B e-marketplace and, over time, defend its value proposition against competitors?
- 2) How can we *capture* a fair share of the value created to ensure profitable and sustainable growth?
- 3) How can we *implement* a viable e-marketplace concept?

Booz-Allen has identified four primary strategies that companies can pursue to **CREATE** and sustain significant value through e-marketplaces:

	Scale and Spend Aggregation	Market and Value Chain Transparency	Transaction Automation	Disintermediation
				
DEFINITION	<ul style="list-style-type: none"> • Bundling of purchasing volume to benefit from economies of scale in: <ul style="list-style-type: none"> – Sourcing – Logistics – Supply chain management 	<ul style="list-style-type: none"> • Creating visibility along and between previously disconnected value chains 	<ul style="list-style-type: none"> • Facilitation and streamlining of existing transaction processes 	<ul style="list-style-type: none"> • Use of e-marketplace to eliminate elements of the existing value chain
BENEFITS FOR PARTICIPANTS	<ul style="list-style-type: none"> • Increased leverage in negotiations • Lower material costs • Lower transaction costs 	<ul style="list-style-type: none"> • Increased market efficiency resulting in better supplier-buyer matches • Access to new markets 	<ul style="list-style-type: none"> • Transaction cost reduction • Reduced inventories 	<ul style="list-style-type: none"> • Reduction of sales and procurement costs for involved parties • Increased speed and quality

Source: Booz-Allen & Hamilton

Most of the e-marketplaces following these strategies will create value; the trick is to **CAPTURE** that value for market owners and participants and to ensure that — at every stage in the marketplace’s evolution — those contributing to the value of the exchange are fairly rewarded for their contributions. To achieve this objective and ensure ongoing liquidity, participants should structure e-marketplaces with the following guidelines in mind:

- Identify the right pricing methodology
- Maintain market neutrality
- Actively pursue partnering opportunities

The challenge that companies need to confront in **IMPLEMENTATION** is balancing the trade-offs between required speed-to-market and their cash burn rate in building a core set of capabilities: marketing/branding; technology; human resources/organization; and operations/processes. Booz-Allen’s approach to this implementation challenge is outlined in this *Viewpoint*.

The e-Marketplace Revolution: Creating and Capturing the Value in B2B e-Commerce

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It has long been evident that the Internet will fundamentally change the way business is conducted; what is now apparent is that it will change the very *forum* in which business is conducted. The emergence of business-to-business e-marketplaces spanning both vertical and horizontal markets has relandscaped the competitive playing field in nearly every industry over the past few years by aggregating scale and spend, increasing market and value chain transparency, automating transactions along the value chain, and disintermediating steps in the value chain.

Still, as significant as the B2B e-commerce opportunity is across industries, many of the e-marketplaces that exist today will fail in the next 12 months. Why? Because they will either chase share at the expense of profitability or they will fail to gain sufficient critical mass to ensure ongoing liquidity. They will either run out of money ... or run into a “gorilla” — an exchange backed by bigger, better financed, and more highly networked industry players.

Therefore, companies looking to form an e-marketplace should ask themselves three key questions:

1) How can we *create* value with our B2B e-marketplace and, over time, defend its value proposition against competitors?

2) How can we *capture* a fair share of the value created to ensure profitable and sustainable growth?

3) How can we *implement* a viable e-marketplace concept?

This *Viewpoint* addresses these basic questions.

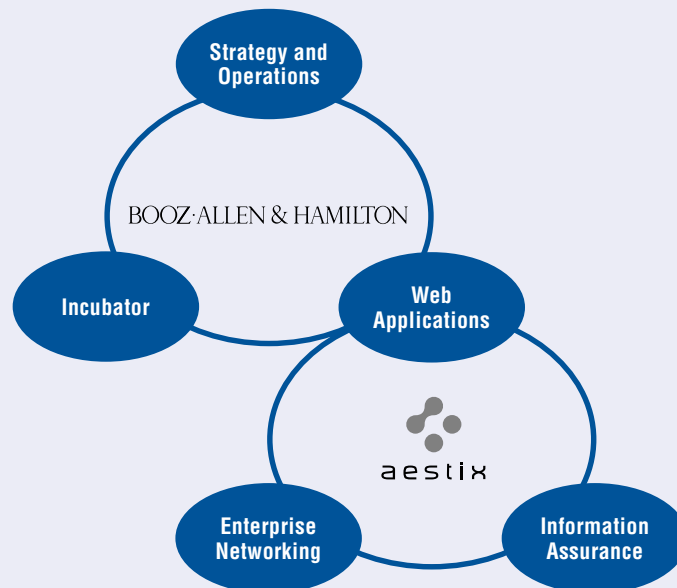
Business-to-Business e-Commerce Escalates ...

Although Internet sales still constitute less than 1 percent of total retail sales in the United States,¹ the e-commerce wave promises to be tidal in its proportions, with business-to-business (B2B) transactions accounting for the bulk of the spending. Although forecasts vary wildly, there is general consensus that B2B e-commerce will be measured in *trillions* of U.S. dollars within a few years.

Not surprisingly, many have lined up to claim their piece of the pie, positioning themselves as intermediaries to help manufacturers hook up with suppliers of everything from truck capacity to aircraft engines to public relations services. Analysts only a year ago

Booz-Allen Insights on B2B Exchanges

- A recent client survey of 55 senior executives across a wide range of industries revealed that B2B exchanges rank among the greatest opportunities the executives confront from an e-operations perspective — as well as an area in which they see significant capability gaps. (*Booz-Allen e-Operations Survey, January 2001*)
- In developing this *Viewpoint*, we interviewed executives at 30 leading B2B e-marketplaces, spanning both vertical and horizontal markets in a variety of industries, to gain their insights on creating and capturing value. Many of these marketplaces are featured in the case studies that follow.
- In partnership with ShareMax.com, a leading provider of Internet-enabled solutions, Booz-Allen has created a suite of powerful Web-sourcing tools for procurement professionals in multiple industries around the world.
- Booz-Allen and its fully owned subsidiary, AESTIX, which specializes in e-marketplace implementation, have helped clients design and implement dozens of B2B exchanges in industries ranging from travel to paper products to public construction.



¹ United States Department of Commerce, Census Bureau Quarterly Report, March 2000

were predicting there would be as many as 10,000 B2B e-market sites operating today. As it turns out, there are fewer than 1,500 — and that number is falling.²

While the opportunities in B2B e-commerce may be huge, the building of a viable e-marketplace is not for the faint of heart ... or the weak of strategy. The current B2B shakeout reflects a larger trend that has swept the global capital markets as realism and business fundamentals have returned to the fore. The opportunistic land grab that characterized the first wave of e-business building is now behind us, and both investors and customers are more rigorous in their assessment of potential e-business models. Economic performance, value-based strategy, and focused execution have reasserted themselves as the hallmarks of success in *all* marketplaces — both physical and electronic.

Coming up with a good idea is no longer sufficient to capture value; a company needs a differentiated approach, deep industry expertise, good relationships with potential market participants, and a dynamic business model that enables it to build and sustain sufficient market liquidity. It's little wonder that private exchanges funded by industry heavyweights (e.g., leading customers) have gained the edge in this more exacting environment.

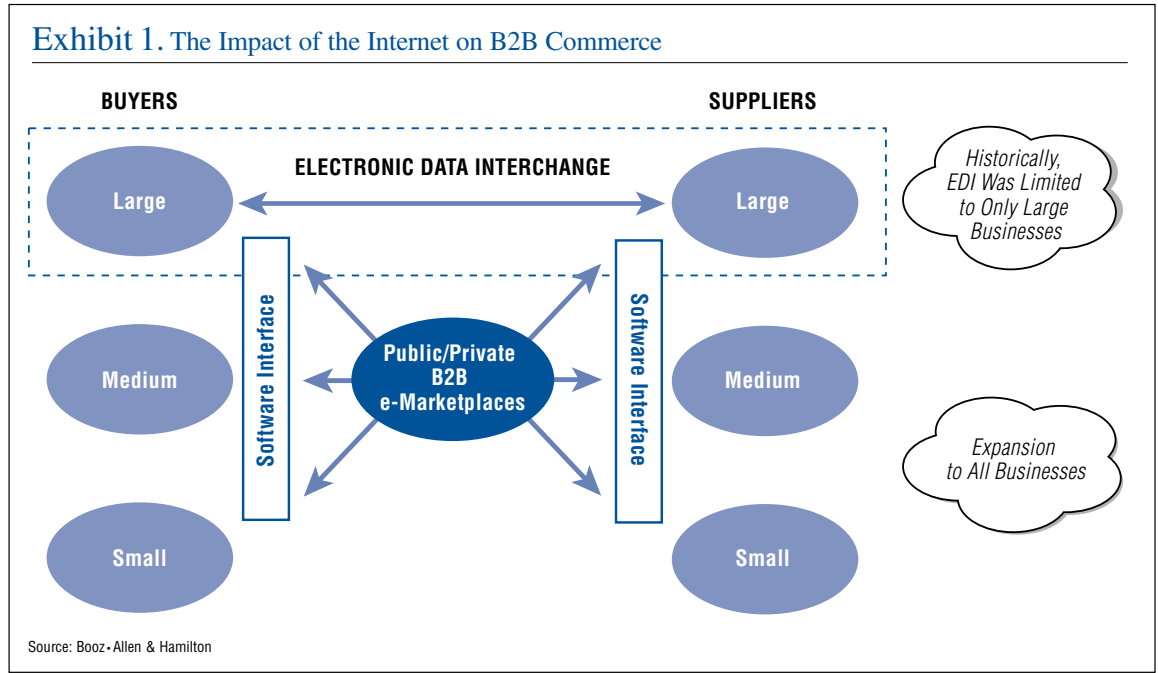
e-Marketplaces: A Primer

A B2B e-marketplace is an Internet-based platform that enables large, medium, and small corporations to exchange goods, services, and information in a far more efficient and effective way than was

previously possible (see Exhibit 1).

Historically, only large industry players could afford the benefits of direct electronic linkages through technology such as EDI (Electronic Data Interchange). Now all participants potentially have access to current market information on supply and demand. Small and medium-sized players have effectively been brought to the table by Internet technology.

e-Marketplaces run the gamut, from private exchanges set up by one large buying organization to increase the efficiency of its spend (e.g., Cisco replenishes inventory through its own electronic network with suppliers) to industry-wide public sites serving multiple buyers and sellers. While many of the insights we offer in the following pages pertain to both types of exchanges, this *Viewpoint* will



² Jason Anders. "B2B: Yesterday's Darling," *The Wall Street Journal*, October 23, 2000

focus specifically on the larger B2B market sites spanning horizontal and/or vertical markets.

For a number of compelling reasons, most e-marketplaces start with the procurement process and expand their functionality from there. e-Procurement typically produces early wins with a payback period that can be measured in months, not years, helping the fledgling effort gain management's full buy-in. Standard technology exists that requires little customization and can be implemented in short order (e.g., a pilot up and running within 10 weeks, on average). Finally, one can leverage the community established through e-procurement to extend

the e-marketplace into other key areas, including e-supply chain management, customer care, online design collaboration, and internal transaction processing (see Exhibit 2).

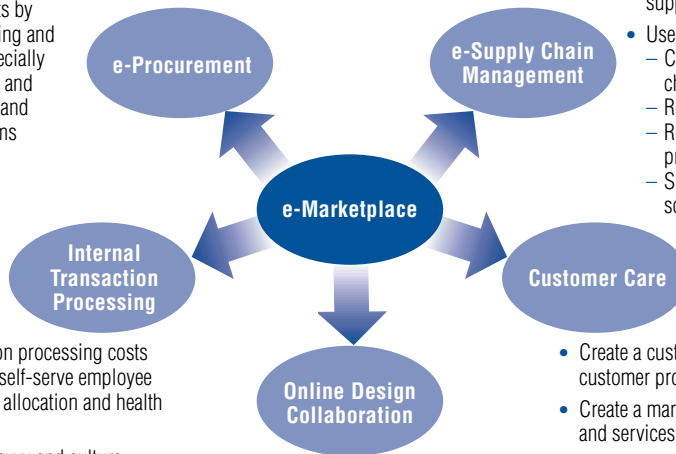
e-Marketplaces generally organize around a vertical or horizontal opportunity. Vertical marketplaces focus strictly on one specific industry or even a sub-segment of that industry and extend their scope step-by-step along the value chain. Examples include Covisint in the auto industry and CheMatch in the bulk chemical industry. Horizontal marketplaces, on the other hand, offer a product or service (e.g., telecommunications, travel) across industries

and increase their scale by attracting new users. Examples include W.W. Grainger (industrial parts) and NewMediary (e-business services).

Still a nascent idea only a short while ago, B2B market sites have proliferated rapidly; industry consortia announced new initiatives nearly every month in 2000. Certainly the most widely publicized of these was Ford, GM, and Daimler-Chrysler's decision in March 2000 to consolidate their respective e-marketplace efforts and form one massive automotive parts exchange called Covisint. This breakthrough development has spawned a rash of similar "coopetitive" efforts in industries

Exhibit 2. e-Marketplace Applications

- Improve efficiency by automating purchasing processes (e.g., RFQs)
- Reduce material costs by using aggregate buying and online auctions, especially for commodity items and maintenance, repair, and operating (MRO) items



- Streamline transaction processing costs (i.e., overhead) with self-serve employee tools such as 401(k) allocation and health care claims
- Build internal Web savvy and culture

- Speed product development and improve product launch by sharing product information more widely inside and outside the organization
- Reduce product costs by accessing shelf technology and common designs
- Reduce product development costs by institutionalizing best practices

- Gain visibility into production forecasts, schedules, and material releases throughout supply chain
- Use added visibility to better:
 - Coordinate engineering changes
 - Reduce forecast errors
 - Reduce safety stock and premium freight costs
 - Simplify planning and scheduling

- Create a customer portal tailored to customer profiles
- Create a market for aftermarket goods and services
- Implement customer care programs (e.g., technical assistance, product information)

Source: Booz-Allen & Hamilton

ranging from aerospace to hotels to mining. Rather than taking on the liquidity risk alone, companies are partnering with their competitors to create industry-wide, market-making sites such as Transora in the consumer goods market and GHX (Global Healthcare Exchange) in the health care arena.

Although start-ups generated many of the early wins in B2B e-commerce, brick-and-mortar incumbents stand to reap the greater long-term gain. They enjoy a number of natural advantages in forming e-marketplaces. First, they are not as dependent on realizing external revenues, since internal cost savings from e-enablement typically more than pay for the investment. Second, they have the industry expertise, the long-term relationships with suppliers, customers, *and* competitors, and the deep pockets to structure a marketplace that delivers true value.

Our work with BPAmoco highlights these points. This oil and gas giant has already developed and implemented a pan-European supply portal that provides daily forecasts of inventory positions, dynamic product cost, and price/performance information. This system is being rolled out globally to auction product to customers at primary locations. Moreover, the company has successfully launched market-facing e-marketplaces. These include OceanConnect.com, an online global shipping hub with a

Electronic Component Market Sites: What Constitutes Success?

- Both **Digital Exchange** (Digital Market, Inc.) and **Virtual Chip Exchange** have sought to corner the e-marketplace for electronic components, but only one has been successful. Although start-up Digital Exchange was built around a promising architecture — an Internet-based supply chain optimization solution — its business model failed to take into account prevailing industry dynamics. Virtual Chip Exchange, on the other hand, was founded by the industry's leading players and developed a model that more easily accommodated existing supply arrangements.
- Digital Market assumed it could take its leading-edge software and create a pure e-marketplace by aggregating product from multiple suppliers and making it searchable. However, it did not tailor its solution to address industry pricing needs, competitive dynamics, or current practices for large-volume purchases (e.g., prenegotiated quantity discounts). Furthermore, it did not furnish bidders with anonymity. Therefore, large participants and those anxious to keep their discount pricing under wraps stayed away. Those large-volume deals that did make it onto the Digital Exchange were bogged down in long negotiations with lawyers rather than expedited by electronic technology.
- Virtual Chip Exchange avoided many of these pitfalls by providing greater perceived value to its members. Founded by Consumer Electronic AG (Europe's leading chip-trading company) and Arrow Electronics (one of the world's largest distributors of electronics) in partnership with B2B e-commerce vendor Mediagrif Technologies, this e-marketplace has ensured liquidity by securing industry backing, focusing on the excess parts market, and vouching for the quality of its member products. The 3,800 members of Virtual Chip Exchange span the globe and are prequalified.
- Virtual Chip Exchange does not use an auction model but instead uses software to find buyers for posted excess inventory. As part of its offering, it provides a "watch" service that alerts members when a desired component becomes available. Moreover, the exchange guarantees payments for parts by taking possession of the parts and inspecting them for quality. Virtual Chip Exchange provides relevant and breaking worldwide news, market prices, delivery lead times, and technical information. Buyers pay a negotiated commission.
- In short, involving the early participation of the industry's leading players and accommodating their existing purchasing and pricing practices to the greatest extent possible can help position an e-marketplace for success.

marine bunker fuel auction capability open to not only BPAmoco but also Shell, Texaco, and Chevron.

The advantages that industry incumbents enjoy by no means confer victory, but they do position brick-and-mortar industry players well in answering the following critical questions:

1) How can we *create* value with our B2B e-marketplace and, over time, defend its value proposition against competitors?

2) How can we *capture* a fair share of the value created to ensure profitable and sustainable growth?

3) How can we *implement* a viable e-marketplace concept?

Long-Term Value Creation Through B2B e-Marketplaces

Long-term value creation begins with a good business idea. Unfortunately, it does not end there, nor is a good business idea particularly easy to come by in today's environment. It requires a thorough understanding of the value drivers and the value potential in one's industry. Without this base level of knowledge, most ideas will founder before they create or capture any real value. They will fail to achieve sufficient differentiation. They will fail to achieve minimal profitability (see Exhibit 3).

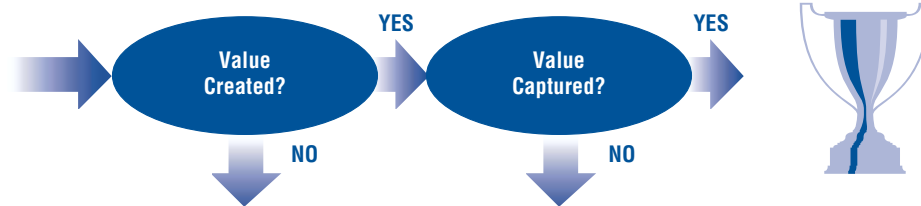
We have identified four primary strategies that companies can pursue to create and sustain significant value through e-marketplaces (see Exhibit 4):

- 1) Scale and spend aggregation
- 2) Market and value chain transparency
- 3) Transaction automation along value chain
- 4) Disintermediation of parts of the value chain

SCALE AND SPEND AGGREGATION

Often the most obvious value creation opportunity for an e-marketplace is in aggregating scale and spend within an industry. e-Marketplaces are typically launched to bundle the purchas-

Exhibit 3. Creating and Capturing Real Value Through B2B e-Marketplaces



CHARACTERISTICS

- “Build it and they will come”
- Easily replicated
- Not earnings oriented
- Focused on tablestakes
- “Just do it” strategy
- Cannot monetize value

CHALLENGES

- Cannot achieve differentiation
- Not an economic solution
- Market expectations shift
- Branding effectiveness compromised
- Unable to capture and leverage knowledge
- Explicit strategies for creation and capture
- Mechanisms that attract multiple revenue streams
- Portfolio of traditional *and* “e” approaches
- Radical rethink at strategy and execution levels
- Increases in management and organizational complexity
- Continual change becomes the norm

Source: Booz-Allen & Hamilton

ing volume of participating companies in order to increase their collective bargaining power and achieve certain economies of scale in sourcing, logistics, supply chain management, and production.

Given this consolidation of market clout, it is little wonder that these efforts come under regulatory scrutiny. Indeed, officials in both the United States and Europe have been kept busy of late investigating these electronic bazaars. If the automotive industry's market site, Covisint, is any indicator, however, it seems likely these ventures will clear regulatory hurdles. In September 2000 Covisint received antitrust clearances

from the U.S. Federal Trade Commission and the German Bundeskartellamt after comprehensive reviews, clearing the way for it to begin operations.

Covisint is the most notable example of the scale and spend aggregation strategy. Headquartered in Southfield, Michigan, this e-marketplace will consolidate the buying power of the Big Three automakers plus Renault/Nissan — and will, it is hoped, furnish both original equipment manufacturers (OEMs) and suppliers with the ability to sharply reduce costs in their respective supply chains through enhanced efficiency.

Indicators of e-Marketplace Potential

- Fragmented buyer market
- Fragmented supply market
- Considerable economies of scale for suppliers
- Commodity-like products (e.g., energy, paper and pulp, steel, chemicals)

Benefits for Participants

In this model, it is clear that buyers benefit from increased commercial leverage, lower material costs, and lower transaction costs (e.g., streamlining of RFQ and negotiation processes). It is not so clear that suppliers benefit. In fact, in some cases an e-marketplace is nothing more than a pure transfer of margins from the selling to the buying

Exhibit 4. Value Creation Opportunities for e-Marketplaces

Scale and Spend Aggregation



DEFINITION

- Bundling of purchasing volume to benefit from economies of scale in:
 - Sourcing
 - Logistics
 - Supply chain management

BENEFITS FOR PARTICIPANTS

- Increased leverage in negotiations
- Lower material costs
- Lower transaction costs

Market and Value Chain Transparency



- Creating visibility along and between previously disconnected value chains

- Increased market efficiency resulting in better supplier-buyer matches
- Access to new markets

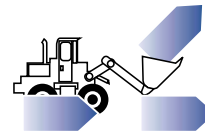
Transaction Automation



- Facilitation and streamlining of existing transaction processes

- Transaction cost reduction
- Reduced inventories

Disintermediation



- Use of e-marketplace to eliminate elements of the existing value chain

- Reduction of sales and procurement costs for involved parties
- Increased speed and quality

Source: Booz-Allen & Hamilton

organization. This sort of win-lose situation occurs when the supplier market is fiercely competitive.

e-Marketplaces that focus solely on margin redistribution, however, are not sustainable in the long run. Indeed, several have already failed. Others have had to shift their emphasis to one of the other value creation opportunities.

Successful scale and spend aggregators create a win-win (see Case Study: Forest Express). The higher transaction volumes pay off for both buyer and seller through reduced logistics and production costs and increased utilization. The value created is shared by all parties: buyer, seller, and marketplace operator.

MARKET AND VALUE CHAIN TRANSPARENCY

e-Marketplaces can also serve to increase the transparency along value chains and between previously disconnected value chains, creating additional business opportunities and enabling participants to leverage best-practice innovations and technologies more readily. By “transparency” we refer not only to price transparency and access to real-time market information but also to the ability of heretofore unrelated buyers and sellers to “see” each other because of reduced search costs and greater visibility across borders. The end result is reduced industry inventories,

increased liquidity (i.e., more interactions between an expanded universe of buyers and sellers), and even the creation of whole new market opportunities (see Case Study: EnviroXchange).

At their extreme, these e-marketplaces can transform industries. Take reinsurance as an example. An electronic B2B exchange called CATEX has allowed insurers and large companies to trade — hence reduce — all manner of “risk” (e.g., health, property damage, political) on a global, 24/7 basis.

Indicators of e-Marketplace Potential

- Highly fragmented value chains with little transparency and many information asymmetries
- High degree of operational interdependence among players in a multistep value chain (e.g., automotive industry, construction industry)

Benefits for Participants

The benefits of this type of e-marketplace are many. Increased transparency along and among value chains results in increased market efficiency and better buyer-supplier matches, not to mention *new*, previously untapped market opportunities. All participants gain a better understanding of who is cost-advantaged and who has excess capacity, and hence they make better strategic decisions. By creating a digital forum for transactions, these e-marketplaces reduce search costs, enhance

Case Study: Forest Express (Scale and Spend Aggregation)

- Formed in July 2000 by three major buyers and suppliers in the pulp and paper industry — Georgia-Pacific, International Paper, and Weyerhaeuser — Forest Express has since attracted the interest of additional partners, namely The Mead Corporation, Boise Cascade, and Willamette.
- The exchange is an independent entity based in Atlanta that strives to be a neutral marketplace for forest, pulp, and paper products — an aim that is furthered by the fact that the founding partners represent both the buy and sell sides of potential transactions.
- Forest Express will structure a market for each product (e.g., building materials, printing, and writing papers) that best suits the participants’ needs, whether it be an exchange, auction, or catalog. The e-marketplace will feature some content on products and may partner with a news provider for industry-specific news.
- By aggregating scale and spend within the pulp and paper markets, Forest Express seeks to streamline transaction processes, improve information flows, and increase delivery speeds, which should lead to reduced transaction and supply chain costs and increased capital efficiency.

buyer choice and supplier opportunity, and furnish a host of rich business development leads by acting as a repository of market information.

TRANSACTION AUTOMATION ALONG THE VALUE CHAIN

As mentioned earlier, e-marketplaces have expanded beyond e-procurement exchanges and started to facilitate and streamline other transaction processes along the value chain, including online design collaboration, supply chain management, and customer care.

Transaction processes that can be automated and conducted online include everything from prequalification through shipping. The most basic and common automation process in an e-marketplace is purchase order creation and delivery.

Removing the human element in these processes helps ensure anonymity, which can be important to participants in an e-marketplace. Large players want to avoid being price gouged by suppliers anxious to exploit deep pockets. Premium brands looking to sell substandard inventory also seek anonymity. Since the e-marketplace provides a single point of contact with multiple market participants, its transaction automation efficiencies can be extended across the entire system. Citibank, for example, can leverage its scale and expertise in accounts receivable and payable and provide them as electronic shared services to its exchange

Case Study: EnviroXchange (Market Transparency)

- By enhancing market transparency, newly launched EnviroXchange strives to transform the environmental operations of diverse industries by allowing companies to *sell* their waste and excess materials.
- Companies can post materials wanted and available and choose whether they would like the material handled by a professional waste broker or consultant. As listings are added, the Web site matches sellers with potential buyers and alerts the posting company. If the selling company decides the match is valid, it can use the site to send an anonymous message to the buying company. Then, if both firms agree, the system furnishes contact information so that negotiations may begin. If there is no current match, the system will flag the posting and alert the posting company via e-mail when a match occurs.
- The market reach and transparency of EnviroXchange have created a market where none previously existed. As an example, one biotech company facing a \$300,000 price tag for disposing of one of its industrial waste by-products used the exchange and found a Canadian firm willing to take it off its hands for free — and another firm willing to pay for it!

customers, reducing the customers' cash management and working capital needs.

Transaction automation can encompass a broad range of activities. Some marketplaces (e.g., NTE, Ferrous Exchange) have automated or semiautomated the matching process on their exchanges rather than having buyers use a search engine to find opportunities. Others, such as eConnections and fob (formerly fobchemicals), have moved beyond the idea of a procurement auction or exchange altogether and have started to automate and optimize their industry's entire supply chain.

Indicators of e-Marketplace Potential

- Process cost is high relative to value added
- Complex processes that can be significantly streamlined and facilitated by an e-marketplace offering
- High need for communication between relevant parties and impediments to such communication through existing channels
- Benefits available for all parties through dynamic pricing opportunities

Benefits for Participants

All participants along the newly automated value chain experience transaction cost reductions and other operational improvements, including:

- Better use of capacity

- Inventory reduction and enhanced management
- More rapid new product introduction
- Faster cycle times
- Improved design and engineering coordination
- Anticipation and early correction of production, delivery, and logistical problems
- Speedier transactions
- Reduced information transfer costs
- More efficient new product testing for “virtual” products

As e-marketplaces such as ChemConnect have illustrated, trade times for some products can be reduced dramatically from weeks to hours, enabling

real-time reactions. And the new product introduction process for nonphysical products can be collapsed, a benefit that many industry consortia are actively exploring (see Case Study: Noosh).

DISINTERMEDIATION OF PARTS OF THE VALUE CHAIN

Some e-marketplaces create value by removing an existing step in the value chain altogether, typically by replacing a traditional sales channel. These ventures are an extreme form of the preceding strategy — transaction automation — but in these cases,

the role of a market participant is not just streamlined but is automated out of existence.

The nature of the interface between manufacturer and end customer is completely redesigned. New pricing mechanisms are implemented. New physical distribution methods are introduced and incentive schemes are overhauled.

The greatest challenge in implementing this type of e-marketplace is transitioning from the old market structures to the new. Ironically, the marketplaces that are most successful are those launched by the very sales channel being disintermediated. They effectively pre-empt similar ini-

Case Study: Noosh (Transaction Automation)

- Noosh streamlines transactions in the printing industry by automating links in the value chain from design through procurement, production, and logistics.
- First a buyer creates a job specification, including job type, size, quantity, paper, ink type, binding type, packaging requirements, prepress requirements, and shipping requirements. Once a specification is created, the buyer sends out RFEs (requests for estimates) to selected suppliers from Noosh's preferred list. Suppliers can access all the information necessary for an estimate and can provide prices for any or all of the requested quantities. Once the estimate has been created, the supplier sends a note to the buyer on the buyer's print page and via e-mail. If the buyer selects that printer, the buyer chooses the desired quantity, inputs the payment method, and lets the printer know when and where the printer can get the files.
- Noosh partners with companies that offer file transfer and file management services to manage very large files. For each job a set of tasks is created, based on job status and activity, which can be personalized by the supplier. All job team members can upload, view, comment on, and modify text files, graphic files, and proofs at any stage of the process. Noosh also provides services that support collaboration, reporting, and strategic sourcing (allowing buyers to objectively evaluate performance). Once the job has been shipped, the buyer can track delivery and shipment details on Noosh. Buyers can also access inventory management, warehousing, and fulfillment services through partnerships.
- Noosh estimates that its services reduce the costs associated with managing and procuring enterprise communications by as much as 15 to 20 percent. Buyers are charged a subscription fee of 0.1 percent of estimated annual usage (transaction volume) with a minimum of \$300,000 per year. Suppliers are charged a transaction fee of 2 percent for each completed job. Noosh also charges professional services fees and training fees.

tiatives being contemplated by buyers, sellers, or independent start-ups. For example, Arrow Electronics, one of the world's leading electronics distributors, has aggressively invested in e-marketplaces (such as Virtual Chip Exchange) that are set up to trade electronic components (see Case Study: Global Healthcare Exchange).

Indicators of e-Marketplace Potential

- Fragmented sales channel with little value added
- Opportunities to use the Internet to deliver additional value to target customers above and beyond what is available through current sales channels

Benefits for Participants

Participants in these e-marketplaces enjoy:

- Reduced sales and procurement costs
- Increased speed and quality
- Improved, longer-term relationships with customers

Capturing a Fair Share of the Value Created

Although we presented four distinct models of potential value creation, the reality is that most exchanges — whether public or private — will employ a combination of these levers. Although each e-marketplace will use a different approach, all need to exhibit a thorough understanding of their industry dynamics and a clear

Case Study: Global Healthcare Exchange (Disintermediation)

- Global Healthcare Exchange (GHX) is an independent e-marketplace for hospital supplies formed by five of the leading suppliers and distributors of medical products and services: Johnson & Johnson, GE Medical Systems, Baxter International, Abbott Laboratories, and Medtronic.
- Recognizing that independent start-ups would create an e-marketplace for hospital supplies if they did not, these leading players acquired such a venture, CentriMed, and used it as the foundation for GHX. The e-marketplace serves hospitals, IDNSs (Integrated Delivery Network Systems), manufacturers, distributors, and group purchasers with a wide range of products — from bone cement to pacemakers.
- Designed as an e-catalog, GHX replaces the marketing, distribution, and order fulfillment elements in the traditional value chain, resulting in significant cost savings and increased efficiency. Created with hospitals' legacy systems in mind, the e-marketplace provides hospitals with single-source ordering and tracking capabilities for both medical and nonmedical products and instant access to product, tailored pricing, and availability information. Other services include reporting, contract management, and inventory tracking. The ultimate intent is to fully integrate the purchaser with diverse supply chain sources.
- The revenue model is a subscription fee for the manufacturers. The fee is 0.125 percent of revenue with a \$4 million cap.

idea of where and how the proposed marketplace creates value for *all* stakeholders — suppliers, customers, and marketplace owners. If not, their success will be short-lived.

Most well-conceived e-marketplaces will create value through not only the obvious external benefits but also increased internal efficiencies; the trick is to *capture* that value for market owners and participants and to ensure that — at every stage in the e-marketplace's evolution — those contributing to the value of the exchange are fairly rewarded for their contri-

butions. To achieve this objective on an ongoing basis, the e-marketplace itself needs to be structured with dynamic value capture mechanisms in mind. (For the purposes of this discussion, we will focus on the more complex challenge of capturing the value from *public* sites encompassing many industry players.)

The value capture mechanisms in a public e-marketplace need to recognize and promote the central value driver in any e-marketplace: liquidity. An exchange is only as good as the liquidity it provides today. Without sufficient and sustain-

able transaction flow, there is no value to capture.

To ensure ongoing liquidity and capture their fair share of the value created through an e-marketplace, participants should structure the exchange with the following guidelines in mind (see Exhibit 5):

- Identify the right pricing methodology
- Maintain market neutrality
- Actively pursue partnering opportunities

IDENTIFY THE RIGHT PRICING METHODOLOGY

Pricing strategy for an e-marketplace should positively answer three key questions:

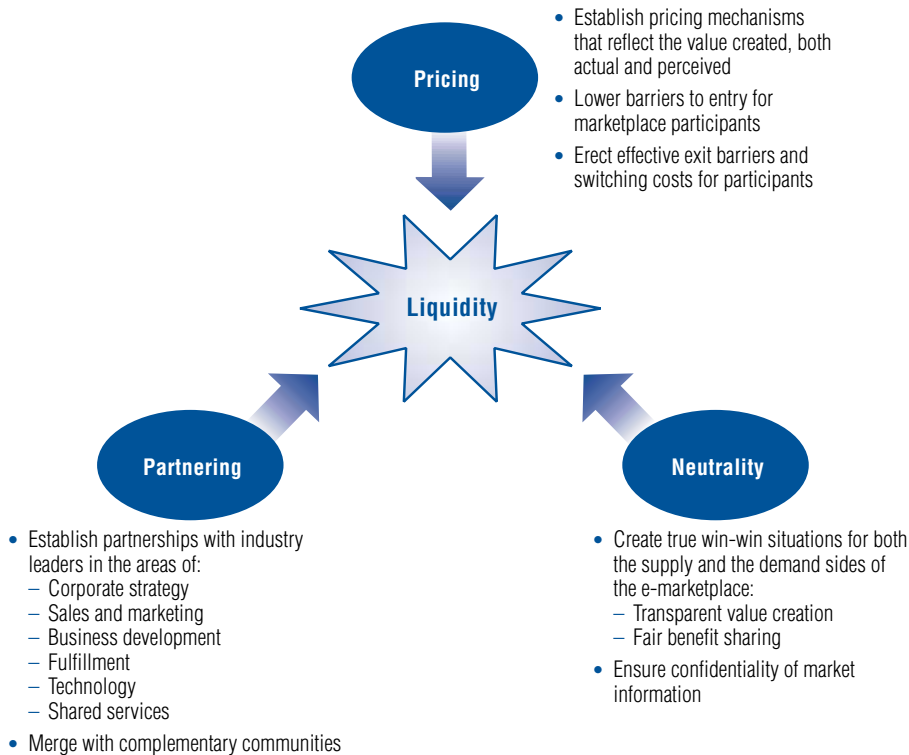
- 1) Does it reflect the value created, both actual and perceived?
- 2) Does it lower barriers to entry for marketplace participants?
- 3) Does it erect effective exit barriers and switching costs?

The pricing tools used to achieve success against these criteria run the gamut from subscription fees to advertising to providing timely and relevant

content. For example, Cattlesale charges a commission of 1.5 to 3 percent on each completed sale, depending on the type of cattle. Farms.com furnishes free research commentaries on the agricultural commodities markets. NewMediary charges a subscription fee (see Exhibit 6).

Although most e-marketplaces started by charging transaction fees, many have gravitated to a subscription- or commission-based model. It's hard to know at present what the winning pricing methodology will be for each of these exchanges, but the drivers are already apparent. Ultimately, the fee structure erected by an

Exhibit 5. Value Capture Components



Source: Booz-Allen & Hamilton

e-marketplace should approximate the internal cost savings generated by its participants as a result of exchange efficiencies such as reduced headcount, greater productivity, and quicker time-to-market.

MAINTAIN MARKET NEUTRALITY

An e-marketplace must produce wins for all involved parties or its liquidity will soon dry up. If an exchange is seen to favor one participant over another, key players will depart. That’s why marketplaces that focus on squeezing the supplier or that misuse confidential or proprietary information lose momentum quickly.

The Covisint launch highlights the importance of market neutrality. Announced with great fanfare in March 2000, this massive e-marketplace immediately encountered resistance from suppliers who perceived it as a vehicle to force their prices down. Many expressed their reluctance to join unless they were given an equity stake. Although those demands were ultimately rebuffed, Covisint did come up with concessions in the form of a profit-sharing scheme for about 40 critical suppliers to solicit their participation.³

Unless buyers and sellers perceive an appropriate level of neutrality in the operation of the exchange (i.e., transparent value creation and fair benefit sharing), they will simply not participate. This dilemma raises significant issues in terms of exchange ownership and how that is allocated

Exhibit 6. e-Marketplace Pricing

REVENUE SOURCE	EXAMPLE
Percentage Transaction Fees on Completed Trades	Cattlesale charges a commission of 1.5 to 3 percent, depending on the type of cattle.
Flat Transaction Fee for Running the Auction	CreditTrade facilitates trading in credit derivatives for a flat fee.
Subscription Fee	NewMediary charges a \$25/month subscription fee.
Referral Fee	Online Asset Exchange provides access to third-party service providers with whom it has a revenue-sharing agreement.
Fee for Service	ecFood charges extra fees for professional services such as recruiting and qualifying vendors.
Private Label Services	MuniAuction creates “powered by MuniAuction” sites for financial institutions and municipalities.
Advertising Revenues	PartsBase.com sells advertising on the site.
Related Premium Content	Farms.com provides commentaries on the leading agricultural commodities as well as periodic strategic research reports.

Source: Booz-Allen & Hamilton

over time. Already dynamic ownership models are being tested that reapportion equity stakes as the e-marketplace moves through three key stages:

- 1) Launch and the creation of initial liquidity
- 2) Expansion of scale and scope
- 3) Maintenance of volume at maturity

The overall goal is to institutionalize incentives for continued participation in the exchange by matching ownership at any given point in time to the value each participant is contributing.

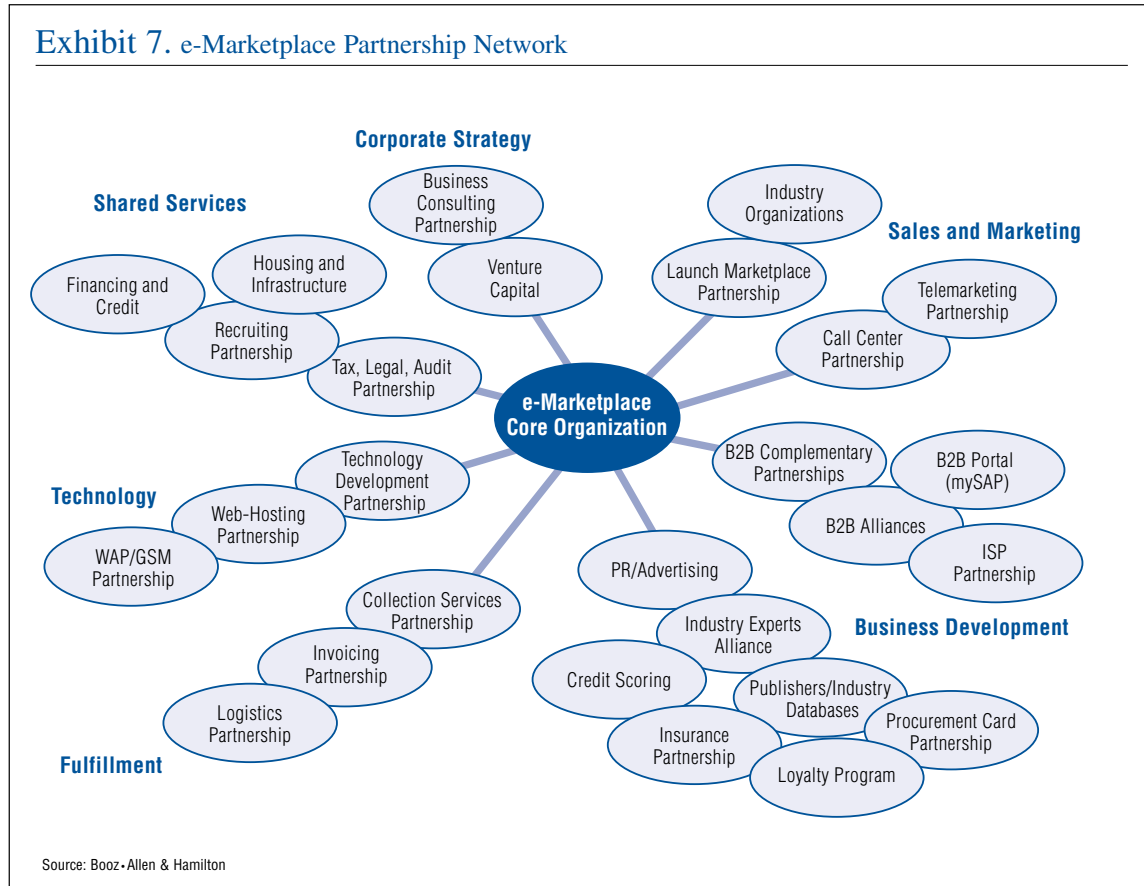
ACTIVELY PURSUE PARTNERING OPPORTUNITIES

Obviously, to capture any value one must create enough value to cover the costs of establishing the e-marketplace. That is far from ensured, given the high fixed costs involved in developing the technology, brand, and operations infrastructure. Therefore, it is imperative that these virtual exchanges establish a commanding market share as quickly as possible.

To get an attractive and convincing service offering up and running fast, e-marketplaces need to leverage partnerships both within their target industry

³ Autonews.com

Exhibit 7. e-Marketplace Partnership Network



and beyond (see Exhibit 7). By building on a foundation of partner modules (e.g., financing modules from Citigroup, logistics modules from FedEx), an exchange can avoid the delays and expense involved in reinventing the wheel and devote full focus to new, breakthrough services.

e-Marketplaces need to recruit participants vigorously. They need to pitch their target industry's major players from day one with an offer too attractive to ignore — and incent them to spread the word. They need to invest in branding and marketing, bundle services in new and compelling ways, and quantify the efficiency gains to be realized.

In certain situations it will make sense for one e-marketplace to merge with another exchange or complementary community. In so doing, the merged entity can bundle users, transactions, and market clout. Potential candidates include both vertical and horizontal marketplaces as well as trade associations, chambers of commerce, and community sites that aggregate target customers.

The most frequently mentioned challenge among the companies we've worked with and interviewed is adoption — getting users on board. Even in industries fluent in technology (e.g., electronic components), e-marketplaces have faced

slower-than-expected take-up (see Case Study: Industrial-Vortex.com). Getting users to change their way of doing things is laborious, so those designing e-exchanges need to leverage partnership opportunities and try to make the technology support, to the greatest extent possible, the *existing*, tried-and-true methods of doing things. An e-marketplace needs to accommodate habit to the greatest extent possible. To facilitate this goal, some marketplaces are even supplying training and change management services.

Implementing a Viable e-Marketplace Concept

Even when a company correctly identifies the value creation potential in an e-marketplace and builds appropriate mechanisms for capturing that value, it can still fail in the implementation phase. An exchange is simply a catalyst or tool for unlocking the value in information-intensive processes (i.e., gathering, managing, and disseminating data). To actually liberate and capture that value, companies must implement effectively. They must change their organizations, people, skills, and processes to unleash an exchange's effectiveness and

efficiency — particularly internally, where much of the value is trapped.

Implementation failures can generally be attributed to one of two factors: slow speed-to-market and/or liquidity problems.

Competitors with a similar business idea may get there quicker and establish first-mover advantage. An e-marketplace may fail to evolve beyond, say, e-procurement and may stagnate as others seize the field. Exchange owners may underestimate the investment required to build key functionality or may simply misallocate funds to the wrong ideas.

The challenge that companies need to confront is balancing the trade-offs between required speed-to-market and their cash burn rate in building a core set

of capabilities (see Exhibit 8): marketing/branding, technology, human resources/organization, and operations/processes.

MARKETING/BRANDING

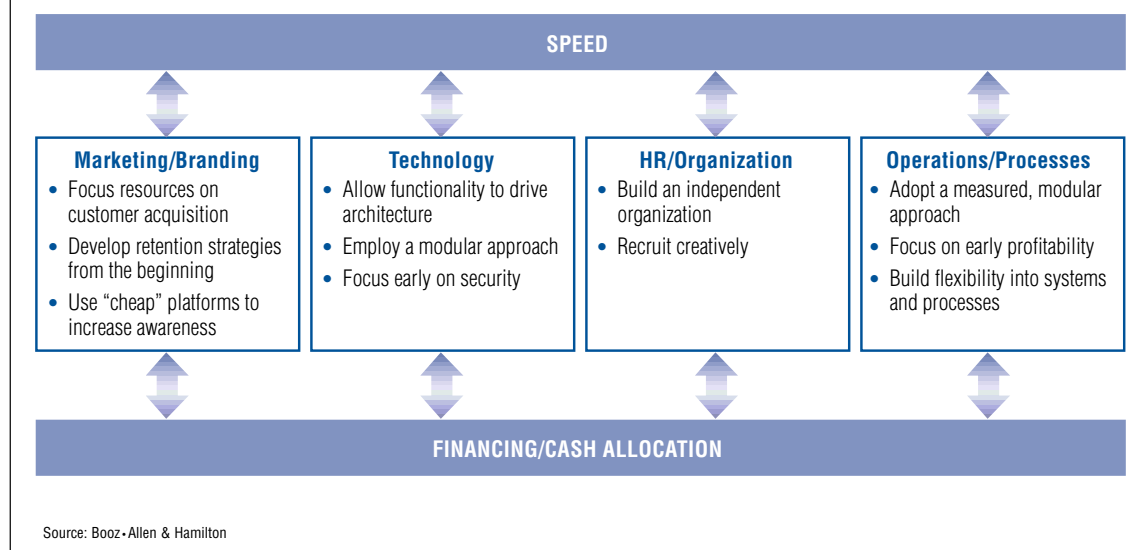
Focus Marketing Dollars on Highly Targeted Customer Acquisition

Rather than throwing money at brand advertising, emerging e-marketplaces should focus their marketing resources on attracting the participation of key customers who will be critical in establishing and maintaining liquidity. To evaluate which customers to target, companies will need to carefully assess the long-term value of each potential customer as well as its willingness to join the exchange.

Case Study: IndustrialVortex.com (Failing to Capture the Value)

- The first B2B exchange in the industrial automation market, IndustrialVortex.com, went live in March 2000. By mid-July 2000 it was out of business.
- IndustrialVortex provided aggregated catalog and e-commerce site purchasing, auctions, hot-buys, product showcases, and an open RFQ (request for quote) marketplace, charging transaction fees to suppliers based on the orders they filled. Services to buyers were free.
- Designed to enable suppliers to sell more goods, the site managed to sign up more than 100 industrial equipment suppliers, including Honeywell, Toshiba, Emerson Electric, Nematron, and Omron Electronics. Unfortunately, the exchange failed to sign up enough buyers to generate sufficient liquidity.
- IndustrialVortex chose to target industrial engineers rather than purchasing managers within the buying community. Yet the company could not create enough content, tools, and technology to attract engineers. Meanwhile, AssetTrade, BigEquip.com, Big Machines, Esprocket, IronPlanet, and Wiznet entered the market.
- IndustrialVortex quickly burned through its \$1.6 million initial funding and its \$2 million in incremental venture capital funding. It was unable to secure additional funding, leading to its demise on July 18, 2000.

Exhibit 8. Balancing Trade-Offs During Implementation



Develop Customer Retention Strategies from the Outset

Liquidity is critical to the value of any B2B exchange and customer transaction volume is the prime determinant of liquidity and the sole source of sustainable competitive advantage. Therefore, as much attention needs to be paid to retaining customers as to acquiring them.

An e-marketplace must do more than act as a conduit; it must engage in a service-oriented relationship with its customer base or risk commoditization. e-Marketplaces can build this sort of relationship through a variety of methods, including highly targeted, database-driven e-mail campaigns that deliver concrete value to customers and engage them in a dialogue. Furnishing timely market research and other valuable infor-

mation on a continually updated basis can also enhance exchange "stickiness."

Employ "Cheap" Vehicles to Drive Awareness

Success in B2B e-commerce rests in reaching the few, not the many. Advertising should be carefully targeted at the individual within a customer organization who makes the buying decisions (e.g., through trade publications rather than general interest magazines). Some marketplaces have borrowed branding and have jump-started their credibility with a big-name spokesperson (e.g., Lee Iacocca for Online Asset Exchange). Others have leveraged existing industry authorities to gain credibility (e.g., CATEX is licensed by the widely respected New York Insurance Department). A

well-managed public relations strategy (e.g., packaging interesting facts and findings generated on the exchange) can also be a relatively inexpensive way to gain awareness.

TECHNOLOGY

Define Key Functionality First, Then Overall Architecture

In developing a technology solution to suit a proposed exchange business model, it's best to plan it in stages (do-learn-do), delivering the highest value components first (see Exhibit 9). Simple descriptions are more useful than detailed system specs in the early stages. Marketplace partners should indicate what they want to accomplish now and in the future, but not how to build it. It's important to determine the areas in which common

standards are critical and to differentiate what needs to be public versus proprietary. Wherever possible, the overall architecture should incorporate legacy systems.

Use Component-Based Solutions to Strike an Effective Compromise Between “Make” and “Buy”

Few can afford the time and expense required to build an e-marketplace from scratch, and yet off-the-shelf solutions lack the customization and special features necessary to attract sufficient liquidity. We

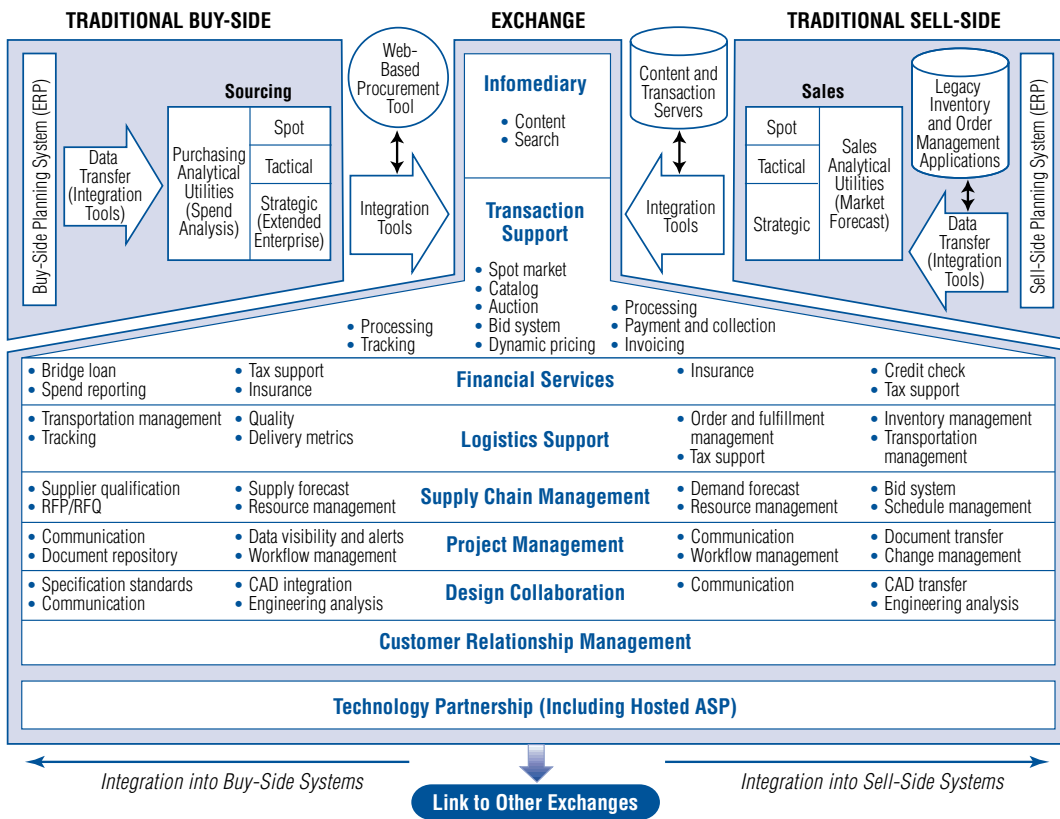
at Booz·Allen advocate a compromise solution called “component-based development” (i.e., building a tailored market site using reusable third-party software modules). These modules are designed to integrate with one another, yet can also stand alone.

Incorporate Security Considerations from the Outset

The security of Internet transactions remains an issue of concern for many, particularly outside the United States, and B2B e-marketplaces are rife with confidential and proprietary information (e.g., procurement volumes and prices,

business processes). Therefore, it is imperative that security protocols be embedded in the initial design of the exchange. These include but are not limited to encryption schemas and transmission protocols (e.g., SSL), firewalls and authentication tools, and access control mechanisms.

Exhibit 9. Typical e-Marketplace System Infrastructure



Source: Booz·Allen & Hamilton

HUMAN RESOURCES/ ORGANIZATION

Create an Independent and Separate Organization that Dynamically Rewards Customers with Ownership

Given that the liquidity of an exchange hinges on customer transaction volume, it stands to reason that customer ownership is fast emerging as a critical success factor in the organization of e-marketplaces. And with customers as owners, it is little surprise that the most effective e-marketplaces have an independent management team that cannot be controlled easily by any one customer owner.

Even if an e-marketplace is a private exchange operating for the benefit of one customer, it is best to separate the venture from the rest of the organization, creating a separate subsidiary with its own culture and compensation scheme.

Get Creative in Sourcing Talent

Even with the recent rash of dot.com failures, the market for Internet-savvy talent remains fierce. The demand for tech-savvy senior management, in particular, far outstrips the supply. In the interests of launching an e-marketplace while the concept is still hot, companies may have to put in place an interim management team. Many venture capital firms and incubators have “executives-in-residence” who are specifically trained to step in and serve until a permanent suc-

cessor can be named. Using this approach, companies do not have to compromise on required skills and can borrow time to look for the right fit.

OPERATIONS/PROCESSES

Adopt a Measured, Modular Approach to e-Marketplace Development

Now that the first e-business wave has passed, we can sort through the debris and refine initial assumptions. Although speed-to-market remains critical, cost efficiency has also risen to the fore, as the capital markets recognize that restructuring rough-draft operations is an expensive endeavor.

Moreover, it's clear that “covering the waterfront” at launch is not necessary, nor is it cost-effective. Instead, a modular approach is recommended. Introduce core elements to a service offering first and gain buy-in. Collect as much customer input as possible through user groups or satisfaction surveys to refine and enhance existing products and services. Early wins not only boost morale internally but also instill confidence externally among customers and investors. Then the next stage of development can commence.

Focus on Early Profitability

This approach argues for a cost-leadership perspective in the early going. Rather than delivering at any price, e-marketplace operators need to invest in build-

ing lean processes that ensure profitability within the first one to two years after going live. That means outsourcing noncore operations (e.g., logistics, fulfillment), developing scaleable operations, and soliciting expertise from outside process specialists.

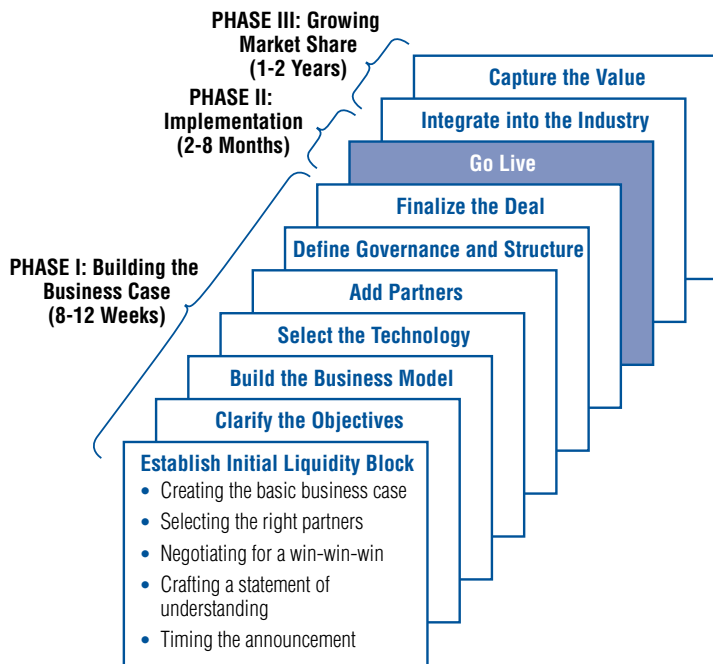
Build Flexibility into Systems and Processes

The challenges of organizing and managing e-marketplaces cannot be underestimated, particularly because they are largely unprecedented. The notion of arch-competitors allying to jointly build a shared infrastructure to allow their industry to operate more efficiently is a brave new idea. The business models and processes that are crafted to support these e-marketplaces will have to be robust and dynamic enough to accommodate the inevitable shifts and reversals that are in store.

The Booz-Allen Approach

To help companies create and capture the value from B2B e-marketplaces, Booz-Allen has developed a 10-step approach (see Exhibit 10). Tested over the course of numerous client engagements, this iterative framework delivers results on a highly expedited timetable.

Exhibit 10. The Booz-Allen Approach to e-Marketplace Development



Source: Booz-Allen & Hamilton

PHASE I

The first phase, which can be collapsed into eight to 12 weeks, involves building the basic business case for the e-marketplace and soliciting participation. During this phase, “parents” establish their objectives and ownership, structure the business model and control mechanisms, and reach out to strategic and equity partners. A letter of intent is developed that maps out the scope of the exchange and the methods for capturing its value. Finally, an announcement is crafted and timed to optimize investor interest and minimize competitive response.

PHASE II

Phase II focuses on implementation and draws on the expert resources of Booz-Allen subsidiary AESTIX. AESTIX, which specializes in e-marketplace development, has, together with our consultants, created an online collaboration platform from which clients can tap expertise and best practices as needed and assess progress against a comprehensive checklist of steps that need to be completed before the site can go live. With our experience, expertise, and technology, we can take an e-marketplace from concept to launch in two to eight months.

PHASE III

During the third phase, we help clients install their e-marketplace solution as the industry standard by helping them grow market share, integrate back-office systems, and manage expectations. We assist clients in tracking progress against operational and financial milestones and help them develop constructive exit strategies. Then we start the process all over again by helping clients develop the business case for the next round of service offerings to enhance the stickiness of the e-marketplace for customers.

Throughout this iterative process, we incorporate lessons learned and continue to modify the approach, recognizing that liquidity, the overriding objective, is fleeting in nature.

The Road Ahead

Of course, before implementing this approach or participating in an existing e-marketplace, companies need to consider from a broader, strategic perspective what they hope to accomplish both immediately and long term. Many senior managers are now asking the question, “How will e-marketplaces evolve?” The more relevant and pressing question is “How can we evolve with e-marketplaces?” Toward that end, companies need to consider a range of issues as they develop

Exhibit 11. Developing an e-Marketplace Strategy: Issues to Consider

ISSUE	KEY QUESTIONS
OVERALL B2B STRATEGY	<ul style="list-style-type: none"> • How do B2B plays fit with our company's overall strategy? • How aggressive/passive should we be in approaching this new space? • What are we trying to build or what problem are we solving with e-marketplaces? • How do we keep up with or pre-empt competition through B2B plays?
EVALUATING OPPORTUNITIES	<ul style="list-style-type: none"> • What information-intensive components of our business might benefit from an e-marketplace solution? • How do we establish a vision that lets these operations evolve with the e-marketplace?
BUILDING OR JOINING e-MARKETPLACES	<ul style="list-style-type: none"> • How do we build the basic business case and structure? • How do we ensure proper implementation? • How do we integrate the e-marketplace into our organization?
LIVING WITH e-MARKETPLACES	<ul style="list-style-type: none"> • What method should we use to continually evaluate new e-marketplace opportunities? • How do we ensure we are getting the most out of the e-marketplace? • How do we pick the winners and know when to drop the losers? • How do we prioritize our resources for best focus?
ORGANIZATIONAL CHANGE TO UNLOCK THE FULL VALUE	<ul style="list-style-type: none"> • What is the best redesign of our organization, people strategy, and processes to get the most out of e-marketplaces? • How do we build a successful migration plan from pre-B2B to post-B2B? • What side effects can we expect and how do we manage the change?

Source: Booz·Allen & Hamilton

an e-marketplace strategy (see Exhibit 11).

B2B e-marketplaces represent an enormous opportunity for industry leaders who get ahead of the curve and establish a winning value proposition for all participants. Critical to success are a clear set of objectives, a compelling business idea, and a fair division of the spoils ... but success is inherently ephemeral in this game. Balancing speed with accuracy, maintaining market neutrality, and making sure the exchange dynamically compensates those contributing to its value will remain ongoing challenges.

What Booz-Allen Brings

Booz-Allen & Hamilton is a global management and technology consulting firm. In more than 100 countries, our team of 10,000 professionals serves the world's leading industrial, service, and governmental organizations. Each member of our multinational team has a single common goal — to help every client we serve achieve and maintain success.

As world markets mature, and competition on an international scale quickens, we are harnessing the strengths of our entire firm to address the needs of our clients. Specifically, by

combining the deep functional and industry knowledge of our Worldwide Commercial Business with the technology expertise of our Worldwide Technology Business, we are uniquely positioned to solve the most challenging e-business problems.

We assist clients in developing their e-strategy and agenda, launching and implementing specific e-opportunities (e.g., new businesses, customer management, portal/Web site strategy, e-sourcing, value chain restructuring, innovation), and developing and implementing Web sites through our AESTIX subsidiary. In addition, we support venture capital firms and private equity fund managers to increase

the success of their e-business ventures.

We judge the quality of our work just as our clients do — by the results. Their confidence in our abilities is reflected in the fact that more than 85 percent of the work we do is for clients we have served before. Since our founding in 1914, we have always considered client satisfaction our most important measure of success.

Consistent with our position as a business thought leader, Booz·Allen sponsors *strategy+business*, a quarterly magazine containing the best ideas in business. Visit the Booz·Allen Web site at www.boozallen.com or the *strategy+business* Web site at www.strategy-business.com.

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