Creating a successful business-to-business e-marketplace.

Strategic design considerations

Key Topics

Reviews how and why B2B e-marketplaces will change intercompany relationships

Discusses key strategic design considerations for constructing a B2B e-marketplace

Explores how to define value nets and understand the dynamics of the individual players

Examines considerations for creating compelling service offerings to retain customers

Investigates possible revenue sources and strategies for capturing revenue

Discusses pricing options and access methods for best meeting buyers' and sellers' needs

Understanding B2B e-marketplaces and their value

Recently, business-to-business (B2B) e-marketplaces have become an ideal way for buyers and sellers to interact directly—without middlemen. In the past, the high cost of communication tools, which were often proprietary and expensive to acquire and maintain, prevented many new industry players or smaller businesses from entering or creating e-marketplaces. However, the explosion and acceptance of the Internet as a relatively inexpensive and ubiquitous electronic communications channel now makes it possible for all businesses—either traditional or new dot-coms—across all industries to develop e-marketplaces. B2B exchanges—designed to allow multiple buyers and sellers to dynamically exchange goods and services while reducing costs and streamlining their supply chains—enable buyers and sellers to meet on a virtual trading floor. There, they can make transactions as quickly and efficiently as commodities traders do by using a variety of market-making mechanisms, ranging from fixed-price mechanisms, such as catalog purchasing, to dynamic pricing mechanisms, which include auctions, exchanges and barter.

E-marketplaces that provide value-add and do not just take advantage of existing market inefficiencies will play a significant role in B2B e-commerce. A recent AMR Research study indicates that B2B e-commerce will be adopted at a more accelerated rate than many companies realize, reaching US$5.7 trillion by 2004. The firm estimates that industry leaders will move from 60 to 100 percent of their transactions to the Internet over the next two years.[1] To successfully launch an e-marketplace, a new entrant into the space must deliver value to all marketplace players. It must also keep a critical mass of participants coming back.

e business

A well-defined business plan is imperative. And in defining a business plan, new entrants must understand that the rules have changed. One-time competitors—such as industry incumbents—are now potential partners. For example, e-STEEL, a startup B2B steel exchange, has formed alliances with U.S. Steel Group and Macsteel Service Centers USA.

Furthermore, the dynamics of an e-marketplace call for an evolving strategy. During the initial phase, designed to attract key players to the e-marketplace, the focus may be on rapid growth of membership and transactions necessary to achieve the critical mass needed to sustain the e-marketplace. The final phase must consider how to maintain and increase the number of participants by offering unique, value-added services.

Before implementing an e-marketplace, firms must consider the following questions:

- Audience—Who are the players in the e-marketplace?
- Offering—What does the e-marketplace offer these players?
- Revenue source—How does the e-marketplace owner capture value from the marketplace and from whom?
- Pricing mechanism—How are prices determined for items being bought and sold?
- Access—What e-marketplace access restrictions are in place?
- Control—Who has strategic and tactical control over the rules and regulations of the e-marketplace?

Defining a value net and understanding the roles of different e-marketplace players

One of the first questions an e-marketplace developer should ask is, “Whom do we serve? What market segments and subsegments do we address?” A developer can begin to address these questions by constructing a value net for the e-marketplace. The five key constituencies in the value net, who impact any marketplace, include:

- Competing marketplaces
- Sellers
- Buyers
- Transaction influencers
- Service providers.

Although sellers and buyers are the primary players in the e-marketplace, others cannot be ignored. Most established industries already have an associated marketplace, or another means by which buyers and sellers find each other. A successful e-marketplace will provide compelling offerings that differentiate it from incumbent competitors as well as other potential e-marketplaces.

One source of differentiation can be made through using value-added services to match buyers' and sellers' needs and complete transactions between the two. Examples include provisioning information, logistics, order tracking, insurance and financing. E-marketplace designers must identify key services and decide whether to offer some or all of them themselves, or to develop alliances with service providers.

Transaction influencers help increase liquidity in the e-marketplace by inducing transactions between buyers and sellers. In financial markets, for instance, business news providers such as Reuters and Bloomberg perform an advisory role. The information they provide allows buyers and sellers to reevaluate their stock positions and make trades. In B2B markets, influencers often reside within buyer or seller organizations. Buyers' customers may also be key influencers. Identifying influencers and providing for their potential (or future) participation are important aspects of e-marketplace strategy.

Once players in the e-marketplace value net are named, the dynamics between them must be understood. To do this, players can be grouped into three key categories:

- *Core-mass players*—The primary, value-delivering player in the market. In stock markets, they are buyers and sellers of stock. The correct blend of core mass contains enough buyers and sellers to create liquidity in an e-marketplace.

- *Mass attractors*—Marquee players who pull a core mass of buyers and sellers into the marketplace. In a stock market, those might be well-known, blue-chip companies whose brand-name stocks attract new traders. Large buyers and sellers in an industry will be the mass attractors because of their transaction volumes.

- *Mass followers*—Noncore mass buyers and sellers who join the marketplace once trading has begun, and who are attracted either by liquidity or number of players in the market.

Categorizing players in this manner helps determine where to focus marketing efforts during the phases of e-marketplace development. At the startup phase, the e-marketplace could adopt the strategy of seeking out and soliciting the mass attractors by offering compelling value propositions. Subsequently, the focus could shift to retaining the core mass and using its strength to retain mass attractors. Critical mass is attained when mass followers begin flocking to the e-marketplace because of the number of core-mass players and the consequent liquidity created in the marketplace. They then become part of the core mass and contribute to increasing marketplace liquidity.

When identifying players in the value net, companies must be aware of different roles within an organization. For example, Chemdex, an e-marketplace for the life sciences industry, has to attract not only scientists who make the original purchasing decision but also purchasing personnel from the buyer organization. It must offer value propositions that appeal to both parties within the organization.

Other e-marketplaces may start by attracting a key buyer, who then attracts a core mass of sellers, who can in turn attract other buyers. Ford and General Motors started their e-marketplace in this way—a strategy that makes sense in the auto industry, which includes only a few key buyers (auto manufacturers) and a large number of suppliers. Other e-marketplaces may first attempt to attract well-known sellers who would be of interest to a core mass of buyers.

Another strategy is for the e-marketplace operator to attract the core mass first, with an initial value-added offering related to market transactions such as information. Consumer portals such as Yahoo! leverage their massive site traffic to attract merchants to their e-commerce sites. Another approach to achieving critical mass is to convince traditional brokers/middlemen to be the first to join an e-marketplace. They may do so if they see the potential for cutting transaction costs and time. For example, one of the equity owners of MetalSite, a steel e-marketplace, is Ryerson Tull, the largest steel distributor or "service center" in the industry. Ryerson is confident that its role on MetalSite adds value in the steel industry and has invited 60,000 of its own customers to participate in MetalSite.

Service providers are also a key audience in the value net. The e-marketplace may profit from establishing an exclusive partnership with a service provider. For example, in a marketplace for perishables such as flowers and food, transportation is a key service. Floraplex, a floral e-marketplace, and FoodUSA, a food and beverages e-marketplace, are forming alliances with refrigerated transportation providers. Exclusive partnerships may prove to be a significant hurdle for the e-marketplace if buyers and sellers have to pay a higher price for a service they can find for themselves. For that reason, an e-marketplace may choose to ally with another e-marketplace for a related service.

Staples—Improving customer service and reducing costs

Challenge
Staples had already launched a business-to-business online solution and was experiencing a demand exceeding its capacity. Staples needed a more scalable solution with an integrated back-end.

Solution
Staples uses IBM software, servers and services to process online ordering and payment from its large corporate customer site.

Benefits
Today, Staples' B2B customers enjoy a more efficient purchasing channel, and Staples has reduced order-processing costs.

The decision to develop an exclusive or open relationship with service providers depends on the direct recipient of the service. If the e-marketplace operator receives the service, it may form an exclusive supplier relationship subject to periodic review. However, if the e-marketplace traders are the direct recipients of service—for example, obtaining financing for a purchase—the e-marketplace operator may not be in the best position to monitor the quality of the service. In those situations, a more open relationship with multiple suppliers, perhaps through another e-marketplace, could be a better approach.

Creating valuable service offerings to attract and maintain customers

The services and knowledge that an e-marketplace offers to its customers are mission-critical. Key questions firms should ask when designing a service strategy include the following: "What are we offering? What value can this e-marketplace deliver to the targeted audience?" When the e-marketplace is primarily a venue for buying and selling products, adding services that facilitate the initiation and completion of a sales transaction can be a differentiator against competitors and increase member loyalty. Examples of such services include:

- Providing standardized and comparable information about products from multiple sellers
- Guaranteeing qualified business partners (for example, rating credit-worthy buyers and suppliers who deliver as promised)
- Handling order and financial transactions online
- Splitting a single order from a buyer into orders for multiple suppliers
- Providing logistics services
- Maintaining inventory of high-demand products.

In markets such as the transportation industry—where meeting deadlines is critical—and in industries where products are perishable, such as in the food industry, the e-marketplace must not only match trading partners but also facilitate fast and efficient transaction completions. In markets such as utility spot markets—where products are generic, differentiation is less critical and availability is more important—an e-marketplace should offer services that deal with trade volume and time needs by splitting or consolidating orders.

An e-marketplace can also mask transacting parties' identities, making it possible for a player who fears brand erosion to sell surplus or off-grade material without letting competitors or premium customers know about it in the open market. In all cases, e-marketplaces have the opportunity to provide e-business-enabled information services that improve existing manual processes by offering more detail in a timely, efficient manner while reducing the cost of the transaction. These services can form the initial value propositions that attract members to a new e-marketplace where liquidity has not yet been established.

When designing an e-marketplace, it is important to understand which services could be a source of strategic control and to seek to perform those tasks directly. In the case of Marshall Industries, a company that sells electronic parts to component assemblers, providing knowledge, such as interactive training sessions and seminars, helps to keep the e-marketplace from being disintermediated by parts manufacturers selling directly to assemblers.

For long-term sustainability, an e-marketplace must offer services that become more valuable to its users as more members participate. For example, eBay, the consumer-to-consumer e-marketplace, uses positive feedback loops to provide buyer and seller ratings based on feedback from previous transactions that involved the buyer or seller. The quality of sellers' ratings improve as more transactions are executed, thereby attracting more participants and, ultimately, increasing transaction numbers. Figure 1 summarizes the types of services described in this section.

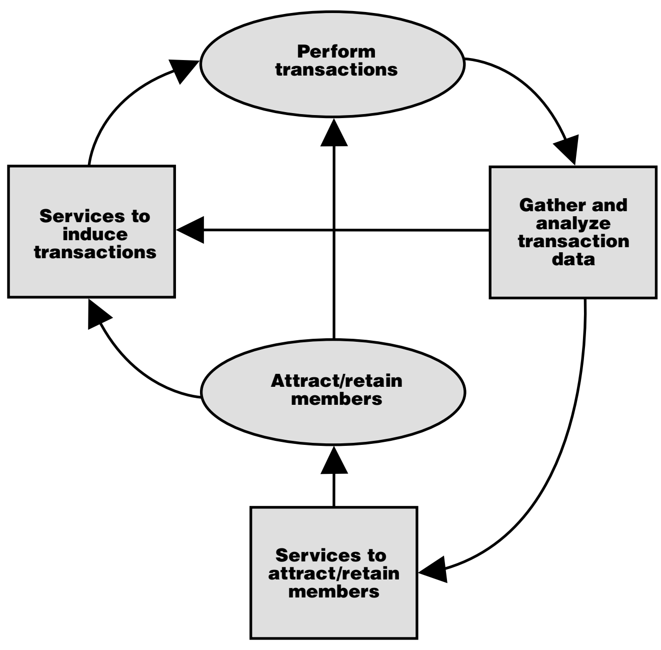

Figure 1: Positioning services to aid in the primary e-marketplace activities of attracting and retaining members and performing transactions

Capturing revenue—sources and strategic considerations

Revenue sources may be one or more of the players in the e-marketplace value net. Third parties who have interests in selling high-value products or services in conjunction with the original transaction can also be a revenue source.

A firm can capture value in the form of immediate or future revenue. An e-marketplace designer may choose to defer capturing revenue in favor of developing a critical mass of traders and transactions. Proxies for potential future revenue include the:

- Number of members (both sellers and buyers)
- Transaction volume
- Number of product types
- Scope for expansion into related industries
- Scope for vertical integration
- Number of Web site page views.

Immediate revenue sources derived from matching buyers and sellers are the spread (the price difference between the buying and selling price), percentage of sales and fixed transaction fees. Firms may also charge listing and membership fees (one-time or ongoing). Other revenue sources arise from providing services that complement transactions. Firms that mediate the financial transaction, for instance, may make money on the float. The firm may also receive commissions or referral fees from service providers who receive business from the e-marketplace. Finally, advertising revenue, the mainstay of consumer portals, can also be an added source of income in the e-marketplace. However, to keep customers satisfied, e-marketplaces must remain focused on efficient and fast online transactions—rather than increasing page views per visitor to maximize advertising revenue.

When an e-marketplace receives revenue only after the completion of a transaction, it is signaling to members that it will try to make the market as liquid as possible. This can be an important value proposition for members, who have little to lose even if they do not end up transacting in the e-marketplace and in industries where the conventional marketplace is not very liquid.

If revenue is a percentage of sales, buyers may consider it to be in the e-marketplace's interest to execute a sale at the highest possible price and therefore expect the market to cater more to sellers' interests. If the e-marketplace cost to execute a transaction is independent of the sales amount, the better option may be to make revenue from a price difference or a fixed transaction fee.

An e-marketplace can or may charge membership fees when the financial benefit to members is well established. If members pay a fixed membership fee, the task of inducing transactions shifts from the e-marketplace to members, who will use the marketplace as often as possible to justify the cost. One-time membership or setup fees may be charged when there is an incremental cost to the e-marketplace for each new member, as in the case of National Transportation Exchange (NTE), where training and software integration costs are incurred when a new member joins.

Determining a pricing mechanism based on buyers' and sellers' needs

One of the key characteristics of an e-marketplace is the manner in which the sales price is determined. The options for setting the price of transactions between a seller and a buyer in the e-marketplace are:

Posted prices—Openly posted in a catalog and do not vary as a function of individual trades.

Negotiated prices—Suitable when sellers may not want to expose their inventory to everyone in the market. Buyers and sellers communicate privately to agree on a price, taking advantage of the communication efficiencies of the online medium.

Auctions (straight, reverse or double)—With auctions, generating liquidity by attracting buyers becomes the responsibility of the e-marketplace. There are several types of auctions, including:

- Straight auction: Appropriate when a product has different values to different parties, or when a product is perishable and needs to be moved quickly.

- Reverse auction: Gives the seller with the most attractive offer the opportunity to meet a buyer's demand. Works best when a surplus of the product is available and when the product from different suppliers is indistinguishable.

- Exchange or double auction: Used to determine volatile commodity prices. Suitable when numerous buyers and sellers are simultaneously interested in purchasing and selling commodity items. Price, the only differentiator, is determined by matching received bids and offers.

Table 1 summarizes the influence of various industry and product characteristics on the price-setting mechanism used.

Table 1: Industry and product characteristics that influence the price-setting mechanism

Pricing mechanism	**Industry characteristics**	**Product characteristics**	**e-marketplace responsibilities**
Posted price	• Demand and supply does not vary unexpectedly	• Competition on brand name and features • Prices too low to justify negotiation	• Aggregate catalog from mutiple vendors • Provide multisupplier product comparisons (by feature)
Negotiated price	• Terms and conditions open to negotiations • Price differentiation	• Nonstandard products • Prices high enough to justify negotiation	• Security-enhanced electronic communication channel for members • Workflow tools
Auction	• Products valued differently by different buyers	• Surplus items • Must be sold by a deadline	• Create liquidity: attract large numbers of buyers for items to be auctioned
Exchange (Double auction)	• Both demand and supply may vary unpredictably	• Commodity items	• Create liquidity: attract both buyers and sellers • Neutral to both parties

Whirlpool—Cutting per-order costs

Challenge

Whirlpool wanted to improve process efficiency for its trading partners and reduce costs through the use of an e-marketplace.

Solution

IBM designed and built Whirlpool's trading partner portal, an e-marketplace that allows appliance dealers to manage orders and inventory online.

Benefits

Whirlpool generated US$100 million in revenue in the first three months of operations and gained a 100 percent return on investment in eight months.

e-marketplace access—determining the participant

The e-marketplace can control who has access to its site and build desirable traffic through screenings or customized service offerings. Open access allows anyone with Internet access to participate in the e-marketplace, an option that is generally acceptable if the transaction values for the e-marketplace will be low, or if prior screening is not expected. Open access also opens doors to competitors and e-marketplace substitutes, and has the potential to diminish the impact of a firm's agenda. In cases where the value of goods is high or where the e-marketplace brand name is tightly coupled with that of its participants, screening may be needed to address trust concerns. In such cases, restricted access is necessary.

Another possibility is to have an e-marketplace with open access at the entry level but with additional access control for more advanced levels, managed by each e-marketplace player for each transaction. Such control enables participants to choose with whom they interact, and to customize each transaction.

Defining whose interests take priority in the e-marketplace

In defining the e-marketplace control structure, it is important to ask whether one player in the value net should control an e-marketplace. Whose interests take priority in a transaction? Choices for control structure include seller controlled, neutral and buyer controlled.[2] Control may be active, where the controlling party is involved in marketplace's day-to-day operations, or passive, where governance is handed over to a third party. Both buyers and sellers may receive benefits from biased e-marketplaces, as outlined in Table 2.

Table 2: Potential benefits to buyers and sellers in biased marketplaces

Control type	Benefits to buyers	Benefits to sellers
Buyer controlled	• Obtain best prices by aggregating demand (from smaller buyers) • Act as (outsourced) purchasing agent • Single point of access to a range of complementary products (across industries) that fulfill a buyer need	• Ability to reach a large number of buyers with lower sales and marketing costs • Qualified sales leads
Seller controlled	• Single point of access to a range of complementary products from an industry • Single point of access to comparable/competitive products from multiple suppliers	• Ability to find buyers for off-grade or surplus inventory • Ability for smaller suppliers to consolidate supply for large buyers • Act as (outsourced) sales and marketing agent

In fragmented and inefficient markets—where there are multiple search, transaction and fulfillment activities—neutral e-marketplaces tend to capture significant value due to their ability to unbundle and rebundle traditional activities. Such neutral marketplaces are then free to form strategic alliances, without traditional roadblocks, and with a single focus— thus optimizing submarkets.

When brand name, differentiation and key skills or knowledge are valued, seller controlled e-marketplaces can be successful. However, achieving critical mass often means sellers must engage in "co-opetition" with traditional competitors. In building an e-marketplace, firms should reexamine relationships with traditional competitors to see how they might achieve increased returns by redefining their relationships. An example is MetalSite, an e-marketplace owned by a group of domestic steel producers and service centers.

Buyer-controlled marketplaces, like GE TPN (Trading Process Network) Post, work well when a major player already is conducting business and other players want to profit from economies of scale. Such a structure not only reduces the cost of transaction for smaller players but also cuts the cost of setting up an infrastructure and the time it takes to enter an e-marketplace.

Conclusion

B2B e-marketplaces should be designed to challenge certain industry practices while adopting new ones. Industry experts must be used in the design process to identify which practices are considered problems by various segments in the industry. These practices must be targeted with well-articulated value propositions developed in advance as part of the strategy for, and design of, the e-marketplace. They must also remain sensitive to industry norms and practices. Examples of industry problems that have given rise to e-marketplaces are:

- Large-player-dominated industries that wish to reduce transaction costs (for example, the Big Three automakers in the automotive industry)

- Fragmented industries with many small buyers and sellers where middlemen or distributors capture a large portion of the margin (for example, Chemdex in the life sciences industry)

- Industries with unpredictable supply or demand, which require the liquidity of a large marketplace and the ability to dynamically adjust prices based on supply and demand (for example, MetalSite in the surplus and secondary steel industry)

- Industries where the product is a commodity with low margins (for example, NTE in the road carrier industry)

- Industries where the products are perishable, requiring fast and efficient market clearance and dynamic pricing that can change with time (for example, NTE in the road carrier industry, or Floraplex in the flower industry).

The design choices that are made to address industry problems or adopt industry practices will make or break an e-marketplace. Only a handful of e-marketplaces are expected to survive in each industry. Consequently, a solid strategic design is critical to attracting the members necessary to create interest and achieve momentum that will encourage others to join an e-marketplace.

IBM Global Services is equipped to address all of your e-marketplace-related needs. As a global leader in e-business services, software and servers, IBM Global Services can team with your company to design, build and manage an e-marketplace on the cutting-edge of e-business.

Because e-business is the differentiator of success, e-business strategy development and implementation will be critical for any business seeking to grow and remain competitive. Using the skills and experience of the IBM e-business Strategy and Design Consulting team, we can help you develop, implement and continually refine an e-business strategy to help fuel growth and to differentiate your e-marketplace from competitors. IBM Global Services has the people, infrastructure, partnerships and industry expertise to guide you and grow with you as e-marketplaces evolve.

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The contents of this white paper are the result of ongoing collaboration between IBM e-business Strategy and Design Consulting and the IBM T.J. Watson Research Center, a relationship that further enables customers to stay on the cutting edge of e-business and information technology. This white paper is a condensed version of *Business-to-business e-marketplaces: Strategic design considerations*, written by Sugato Bagchi of the IBM T.J. Watson Research Center and Anees Gopalani of IBM Global Services. To read the original white paper in its entirety, visit:

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