Shorey Consulting, Inc.

Identifying Successful Business-to-Businesses eCommerce Models

Overview

As the Internet emerged as a major force in business "the Web changes everything" became a mantra. In the realm of business-to-business electronic commerce this turns out to be wrong. While the Internet may change the way that some business functions are performed, the fundamentals of commerce remain the same. Even changes of approach as seemingly comprehensive as moving on-line need to be analyzed as a strategic decision in the context of the underlying marketplace. Therefore, when describing Internet-based business-to-business markets the term eCommerce makes more sense since the *e* or electronic portion is subsidiary to the traditional rules of *Commerce*.

The first principle for understanding eCommerce is that customer priorities drive all transactions. In the end, customers will pay for products and services they value and will not pay for others. Second, suppliers create business models that attempt to satisfy these customer priorities at acceptable cost levels. Finally, the "old economy" of traditional competitors defines the cost structure available for any new business model. A new eCommerce business needs to have lower costs (the preferable case) or to meet customer priorities better in order to triumph over existing practices.

While these principles apply to business-to-business eCommerce, business-to-consumer examples are better known and can illustrate the issue. The on-line home delivery grocery companies (Webvan, Peapod, HomeRuns, etc.) are facing the reality that grocery retailing has very thin margins and that customers will not pay much of a premium for extra convenience. In turn, these new grocery business must somehow fit an extra cost – home delivery – into the grocer's traditional gross margin. So far, none of the on-line grocers has uncovered an operating approach to offset additional delivery costs with other operating savings. Failure to meet important customer priorities and to fit operations within the confines of the existing industry's cost structure is making profitability elusive for the on-line grocers.

Successful business-to-business eCommerce models must conform to of four strategic realities:

1. Customers and suppliers interact through six sales and distribution process activities. Any new approach must assure that all the activities are performed.
2. Customers' needs and benefits define the priorities placed on each of the sales and distribution process activities. No customer values all activities equally.
3. eCommerce solutions are better suited to lowering costs or improving service in some of the key activities than in others.

4. Even among eCommerce solutions providing these functions effectively, different business models will be positioned better to gain competitive advantage depending on which activities create the most value for customers.

Earlier papers in this series developed the activity-based approach for understanding costs and requirements in sales and distribution channels[1]. This paper extends that approach to provide a foundation for assessing likely customer priorities and for analyzing financial attractiveness in the eCommerce market. Future papers will apply the analytical framework to specific business situations to illustrate the potential pitfalls and successes available in eCommerce.

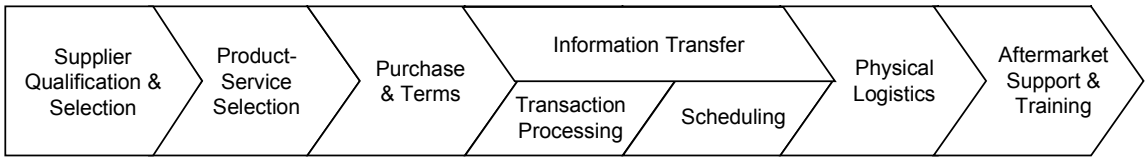
Customer and Supplier Activity Frameworks

Purchasers of components, supplies and services engage in a series of activities during the purchasing process; no matter *what* a business is purchasing, it engages in each of the key activities. The importance of the activities to the customer and the content of the activity do change with the type of purchase. Moreover, it does not matter *how* a business purchases, it still must undertake all of the activities. A company can purchase directly form a manufacturer, it can buy from a traditional distributor or it can buy on-line. In each instance, it needs to follow the same basic steps.

Just as customers engage in purchasing activities, suppliers have a parallel set of activities to sell and deliver goods or services. Suppliers choose how to perform each activity, what level of effort to devote to each, and whether to perform the activities itself or enlist wholesalers/distributors. How the suppliers organize to perform these activities determines their sales and distribution cost structure.

The six major activities start from the initial identification of potential suppliers, include the mechanics of purchasing and end with post-sale follow-up and support (Figure 1).[2]

Figure 1: Purchasing Activities



The basic flow of activities starts with the identification and qualification of suppliers. Who is an acceptable supplier? In some situations where purchases are infrequent, finding a supplier at all can be a time-consuming task. For example, a company hiring an architect needs first to identify the available candidates and then select an appropriate one. In other circumstances, the process of qualifying a supplier is critical to the

[1] *Achieving Competitive Advantage Through Sales and Distribution Strategy* and *Cost and Value in Sales and Distribution Channels* available from Shorey Consulting, Inc.
[2] The activity framework was first presented in *Cost and Value in Sales and Distribution Channels* from the supplier's standpoint. This discussion considers the activities from the buyer's perspective.

purchasing process. A manufacturer of heating equipment needs to have the product tested and certified including all critical components. Switching suppliers of those components may require re-certification. The heating equipment manufacturer needs to be sure it is dealing with a qualified supplier before it starts the certification process.

The second task is to select the actual products or services that are needed. This is often a complicated process of deciding exactly the right product for a specific application. In the case of services, this task may involve elaborate proposals and extensive internal reviews. For some components, buyers and suppliers may engage in joint development efforts to get the customer the right product.

Once the product/service and supplier are selected, the customer negotiates the final terms and makes an actual purchase. In some industries such as exchange traded commodities, prices and terms are largely set through public quotations or standard price sheets. In most industries, the final price and terms are arrived at through a round or rounds of negotiations.

Purchases involve many forms of information transfer between customers and suppliers. For example, customers typically need to :

- generate and approve purchase orders
- accept and verify deliveries
- receive and approve invoices
- make payments
- link purchases into accounting, inventory management, production control and/or other internal systems

In addition, customers may need to check on the status of orders, delivery dates, invoices, etc. Moreover, each of these steps has a corresponding activity performed by the suppliers.

From the customer's standpoint, logistics and delivery are necessary activities for purchases to arrive on time but these activities may not be visible directly to the customer. As a result, they may not be valued highly on their own, but the functionality from on-time delivery and from controlled inventory and logistics costs may be visible and valued. Suppliers manage the inventory and logistics tasks by creating networks of their own warehouses and by using distributors or wholesalers to meet the service standards demanded by customers.

In addition to the paperwork involved in processing an order, many buyers need to track the status of their orders and the likely delivery schedule. At the simplest level, customers call suppliers for order status information, employing expediters and people in other similar roles to monitor shipment status and insure timely delivery. Other buyers and sellers have installed electronic data interchange (EDI) systems to provide vastly increased visibility into inventory levels and lead times throughout the total supply chain.

Finally, customers may have needs following the actual delivery of a product or service. These can include support and training on how to use a product or may include maintenance, upgrades and repairs.

Characterization of Customer Priorities and Activities

Customers place differing priorities on the activities in the purchasing process depending on the type of product or service they are buying and, implicitly, the effect of each activity on the success of the customer's business model. Suppliers have responded to these differing customer priorities by building and evolving distinct, focused sales and distribution channels.

For example, automobile manufacturers are reducing the number of parts suppliers, expecting those suppliers to design subsystems (seats, interior panels, etc.) and to cooperate in minimizing overall innovatory levels through active information sharing. Deliveries are made directly from the supplier to the automobile assembly plant as part of a tightly integrated supply chain. In contrast, the lumber and building materials industry (plywood, windows, doors, etc.) retains several layers of distribution. Customers may select a distributor and then purchase the products offered by that distributor. Rarely will customers have direct contact with manufacturers in order to set design or product standards. The two industries bear no structural similarity to each other because the needs and priorities of the customers are distinctly different.

An OEM parts supply industry such as auto parts is structured around the product selection, delivery and information transfer priorities of companies selecting products infrequently but taking delivery daily or weekly; typically suppliers and customers have close, continuous working relationships. The supply chain is short and the aggregate value of transactions makes it worthwhile to build cooperative links between customers and suppliers to reduce channel costs.

At the other end of a spectrum, "supply" industries (replacement parts, cleaning supplies, etc.) retain multiple layers of distribution and, until recently, have been slow to improve information flow across the supply chain. Most office supply customers buy from some sort of retailer, either a retailer like Staples with stores or a contract office supply company that takes orders and then delivers from warehouses. These "retailers" may buy directly from manufacturers or from inventory-holding wholesalers. The retailers may hold 3000 to 5000 items of inventory while the wholesalers may have 30,000 items or more. This industry is organized to provide infrequent deliveries of many disparate products to large numbers of customers. No individual customer or supplier is critical to the process.

Both of these industries developed their structures in response to customer priorities and the economic realities of meeting those priorities. It is very unlikely that these different industries will be served appropriately by the same eCommerce models. Rather, the appropriate eCommerce models will respond to the sales and distribution activities needed and valued by the specific group of target customers.

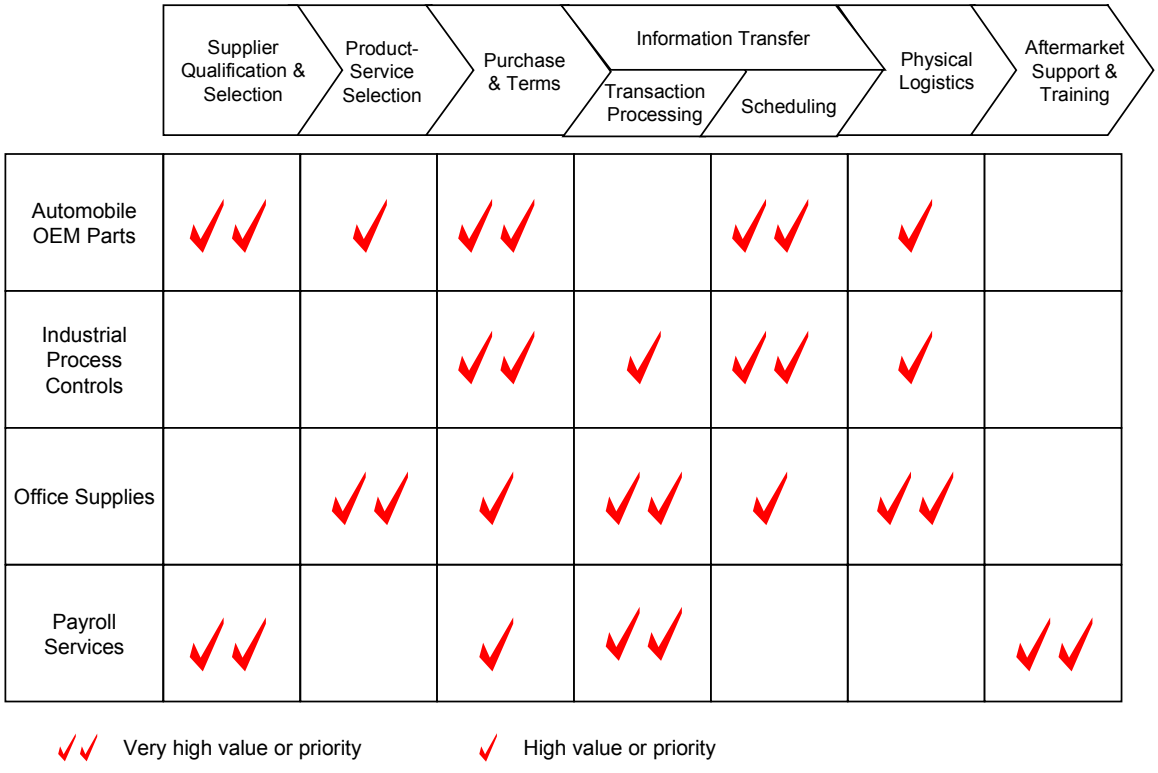
Two other examples (industrial controls for refineries and payroll services) illustrate how differences in customer priorities depend upon what is purchased. In the case of control systems, customers purchase infrequently and pay major attention to negotiating prices and assuring timely delivery. Payroll services are also selected infrequently but are used weekly, biweekly or monthly.

Industrial process control systems are produced by fewer than ten major suppliers worldwide and are used by an identifiable group of refinery, power plant, water system and other large process plant operators. However, these systems are often purchased by construction contractors working with fixed budgets. The contractor's priority is to buy a system acceptable to the end user at the lowest possible price. Since the major control system suppliers are usually acceptable, the key activity with the greatest importance to the purchaser (the contractor) is typically price and terms negotiation. The end user may place priority on post-sale support, but this is reflected in the purchasing process only when the end user approves acceptable suppliers, and not when the contractor actually purchases.

Companies use payroll suppliers to process payroll transactions, issue checks, make automatic deposits and maintain employee payroll and tax records. The actual purchase process usually focuses on qualifying a supplier. Will this payroll supplier actually do the job? Will it not make the same (or worse) mistakes than my current supplier? Once the supplier selection decision is made, customers often focus on the transaction process – getting the data linkages working between the customer and the payroll supplier. Customers also often require training in how to use the payroll system and continuing support as problems occur and as changes are required.

In these four example situations, there is little commonality in the priorities placed by customers for the various activities in the purchasing process (Figure 2). Automobile OEMs and payroll service purchasers focus on supplier qualification. Product selection is not a critical priority in these four examples but can be in other situations. Price and terms negotiations are important for auto parts and control systems but may be relatively standard for office supplies. Each group of customers has different priorities.

Figure 2: Key Activities by Example Industry



The implications of these differing priorities in an Internet business context is that no single eCommerce, or any other sales and distribution approach, will be appropriate or successful across all types of purchases. Automobile companies and process control installation contractors will value eCommerce approaches that encourage competitive bidding and facilitate scheduling. Office supply purchasers will want eCommerce options that simplify the paperwork costs of selection, ordering, and invoicing while maintaining low logistics costs. Payroll systems users may value eCommerce approaches that simplify information transfer during conversion and continuing operations. Customer priorities will force eCommerce into multiple models.

eCommerce Contribution to Activities

The information transfer characteristics of the Internet can add capabilities and reduce costs for several of the purchasing activities. To the extent that an eCommerce entity actually changes the cost or performance of activities, the entity will have the opportunity to create value as a viable business. Without reducing the cost or increasing the performance of activities, it will be virtually impossible for an eCommerce company to create long term value.

Well designed and managed Internet-based eCommerce can create benefits in five broad areas of interest to suppliers or their customers:

1. Aggregate customers or expand the list of potential suppliers less expensively than conventional marketing approaches
2. Enhance and simplify product selection
3. Make pricing more consistent in industries with poor price visibility and communication
4. Improve information transfers between customers and suppliers yielding cost savings if supported by changes in internal processes
5. Improve post-sale service and support through enhanced knowledge management

However, Internet-based eCommerce models also have the potential to raise costs. For example, the marketing costs incurred by some eCommerce companies to attract web-site visitors are greater than the costs spent for marketing through conventional sources. Some eCommerce marketplaces avoid traditional physical distribution channels and may incur higher logistics costs as a result.

Aggregate Customers

One hope for eCommerce is that it will be an inexpensive way to help customers and suppliers find one another. This is one of the premises behind industry marketplaces such as Chem-Trade in chemicals, Farm Quote in agricultural supplies, SciQuest and Chemdex in laboratory materials and Office.Com in office supplies and equipment. However, eCommerce will make a contribution to customer aggregation only when two conditions are met:

1. A significant proportion of customers must be seeking new suppliers without a simple conventional means of finding those suppliers
2. The cost of bringing customers to the eCommerce site must be lower than other means of generating qualified inquiries from potential customers.

As shown in the four purchasing examples (OEM auto parts, office supplies, industrial control systems and payroll services), there are many business-to-business purchases where buyers do not place a high priority on seeking new suppliers. Conversely, for customers that purchase an item infrequently or in situations where the cost of switching between suppliers is low may be attractive targets for customer aggregation eCommerce.

Enhance and Simplify Product Selection

Internet-based eCommerce has substantial potential to improve performance in selection or specification of products that have traditionally required skilled individuals. For example, capital goods such as pumps, control equipment, electrical equipment often have multiple options designed to meet specific technical requirements for capacity, longevity, feature requirements or the like. Traditionally, customers have relied on independent specifiers such as consulting engineers or on trained sales representatives from the supplier to assist in selecting the appropriate products. This is an expensive and often slow process.

In theory, the Internet provides both the information storage requirements and the means of making that information accessible to customers that would make automated product selection and specification simpler and more effective. To date, many business-to-business eCommerce sites have moved part way towards greatly improved product selection by putting their catalogs on the Internet. For example, the leading air conditioner and controls companies have electronic catalogs on their web sites but do not yet have on-line selection and ordering systems. In addition, many manufacturers and distributors have software available for product selection but often have not yet fully integrated into a complete eCommerce capability.

Make Pricing More Consistent

Most business-to-business transactions are based on negotiations between buyers and sellers over prices and terms. These negotiations may be explicit and detailed, such as the multiple rounds of proposals when an airline seeks to buy a new round of airplanes or they may be more subtle such as when a sales representative for office supplies offers a customer a certain percentage off of "list" prices. In principle, any open marketplace (electronic or not) could regularize these discussions making them operate more like the stock or commodities markets.

There have been some steps towards creating open markets for industrial products such as VerticalNet's NECX Global Electronics Exchange for electronic components. However, this is also and arena with a string of failures dating back to Industry.Net, later Nets, Inc., that failed to generate either customers or sufficient investors. It is not clear whether any potential users of electronic marketplaces, either product buyers or sellers, believe that a more open pricing and trading system is in their best interests.

Improve Information Transfer

Information transfer activities are, in principle, highly amenable to cost reduction and performance improvement through eCommerce. The Internet provides much wider, customizable, flexible and responsive access to information than past data sharing approaches. Through the common gateways of web pages, companies can be in positions to share information about order status, manufacturing status, inventory levels, shipping times and the like. For example, both UPS and FedEx offer real-time, on-line tracking of shipments over the Internet. Customers and suppliers should also be able to eliminate layers of paper from their transactions, speeding up operations, reducing errors and lowering costs.

In reality, these benefits are a challenge to obtain because the cost savings through information sharing do not occur at the eCommerce, Internet level; rather they occur deep in the internal business processes of the customers and the providers. The cost of actually creating a web site and putting information on it is low. The cost of adapting (or replacing) the "back office", i.e. the internal order entry, processing, scheduling and tracking systems, so that customers have access to their orders but not those of other customers can be millions of dollars and include replacing the legacy internal data systems. Tackling this problem has lead the traditional enterprise management software

companies into web-based systems such as mySAP and recent applications from Oracle. Some of these integration costs may, therefore, be subsumed as part of normal "back office" system upgrades. However, the complexity of opening internal systems in order to allow customers access to information will increase the complexity, and thus the cost, of any system conversion or upgrade. Going further to mesh the back office of the supplier seamlessly with that of the customer is yet again more difficult.

A new set of eCommerce enablers is also emerging in addition to the enterprise management software companies. Companies like Ariba, Commerce One, and Metiom offer various software programs that create procurement systems for buyers. These systems link to external marketplaces or to supplier electronic catalogs and, often, to existing internal reporting systems. They are attempting to bridge the information gap between customer and supplier information systems first by reducing or eliminating redundant data entry and, ultimately, by linking supply chains.

Improve Post-Sale Service and Support

Post-sale service and support includes such factors as making changes to information, receiving product updates, maintaining systems, or diagnosing and repairing problems. Suppliers are working to use elements of eCommerce to improve service levels and to reduce costs for all aspects of post-sale support.

Use of the Internet is emerging rapidly in areas where companies want to give users access to data and allow for updates and changes. For example, Ford Motor Company has decided to give all of its employees computers and then create an internal network to allow, among other things, employees access to their own personal information and to make changes in benefit selections. Fidelity Investments and other fund managers provide similar services over the Internet for 401K and other plans where beneficiaries can change data, request information and change asset allocation in their plans. Software companies are using the Internet as a means to provide product updates either on request or through regularly scheduled update sessions.

Technical support is also moving on-line. Most computer and software companies now provide on-line technical support for both business and consumer customers. To date, this has usually involved catalogs of service bulletins ("Knowledge Bases"), lists of frequently asked questions, and capabilities to email service technicians. Some more advanced efforts provide discussion areas where users can help each other or where support staff can provide assistance to users.

The true capabilities of eCommerce for post-sales service and support are not yet known. Companies are still experimenting both with *how* to deliver support and with *what* can be delivered. As eCommerce matures, the range of post-sale service and support options are likely to expand dramatically.

Logistics

In principle, improved information sharing between buyers and sellers through eCommerce should allow for better management of supply chain logistics and

inventories. For example, mySAP contains a significant supply chain management module building on the strengths of SAP's traditional supply chain management software. As with the other information sharing capabilities, the effectiveness of eCommerce to improve supply chain logistics depends upon the ability of the companies to integrate information sharing into their own internal processes.

One problem area that has arisen in eCommerce, especially for new on-line marketplaces, is that they are forced to handle physical distribution. Many on-line entities did not realize the complexity and demands in physical distribution and its potential importance in the channel cost structure. Here again, a business-to consumer example is illustrative because it is well known. When Amazon.com first began operations, it fulfilled orders using Ingram Book Group and other traditional book wholesalers. It has know embarked on its own development program and spent over $300 million in 1999 to build and equip 5 million square feet of space for fulfillment capability. In essence, Amazon has more than recreated its original partner, Ingram. For its most recent quarter, fulfillment costs (excluding outbound shipping) were over 60% of Amazon's gross margin and exceeded its technology costs. As a result, Amazon is beginning to look more and more like a traditional wholesaler than it does like an eCommerce company. Few new eCommerce entities will have the opportunity or the capital to reinvent an existing physical distribution system. Therefore, one challenge will be to integrate eCommerce with existing distribution resources.

The capabilities of the Internet are still emerging and many remain unproven. Most actual eCommerce activities are still partial efforts that do not live up to their eventual promise. Looking forward, it is clear where eCommerce should make contributions even though the existing performance may not have come close to the ultimate potential. The challenge will be to move beyond current eCommerce limitations to tap the power of the Internet as a vehicle for business-to-business eCommerce.

eCommerce Business Models

The business-to-business eCommerce realm is further complicated by the differing strategic intents behind eCommerce activities:

1. Create new businesses with new revenue and profit streams, for example new eCommerce marketplaces
2. Augment current activities, for example putting catalogs or other information on-line
3. Transform an existing business and therefore gain market share, for example Dell Computer's growth by eliminating a layer of distribution thus allowing lower prices

Companies tend to adopt different eCommerce business models depending upon their intended objectives.

New Business

Companies seeking to create new eCommerce businesses have generally created independent or semi-independent marketplaces designed to generate revenues and profits.

These marketplaces need to attract their own customers and are not supported directly by infrastructure from an existing business. The need to attract new customers and the lack of readily available ties into supplier information systems force most new marketplaces to concentrate on the early sales and distribution process activities of supplier qualification and selection, product-service selection and purchase and terms.

All of the new independent marketplaces fall into this category as do semi-independent ones such as MyPlant.com, a Honeywell and Microsoft sponsored marketplace designed to serve the needs of process plant operators. MyPlant.com, like many other marketplace models, offers the plant operators industry news, career information, solution exchanges and forums to communicate with others in the industry. These features are designed to attract plant operators to the marketplace so that the MyPlant.com can sell products through the web-site and charge commissions to the sellers. The effectiveness of the business model depends upon the ability to attract customers economically while keeping all costs within the commission or gross margin available from product sales.

Extension

Suppliers, buyers and wholesaler/distributors are pursuing business extensions into eCommerce, typically building upon the activities that they perform already. Suppliers are experimenting with a wide array of features such as electronic catalogs, product search capabilities, electronic ordering and order tracking, on-line service and support. Similarly, many wholesalers and distributors are also adding catalog, search and ordering features. The goals for these supplier and wholesaler/distributor eCommerce extensions are to lower the cost and improve the value provided to customers. The sponsor then benefits from a combination of cost reduction, market share gain or simple prevention of losses to more eCommerce-active competitors.

For example, W.W. Grainger, a major catalog wholesaler of motors and other industrial parts and supplies now offers access to its catalogs on-line. Customers can use the Grainger web site as an extension of the traditional business, leveraging Grainger's existing cost structure and inventory depth. Buyers also get added functionality through a product selection search engine and through on-line access to their order status. Suppliers continue to receive exposure to many customers and reduced logistics costs from order and shipping consolidation. Since W.W. Grainger has its own pre-existing customer base, it has not added features designed to attract and retain new users so it does not have the industry news and career sections included by MyPlant.com. The W.W. Grainger model does have the capability of controlling logistics costs by leveraging Grainger's existing physical logistics systems.

Restructuring

The most radical of eCommerce business approaches are those that attempt to restructure an industry by changing fundamentally the cost or performance of several key activities so that a company can gain significant competitive advantage expressed by a substantial change in market share or profitability. Under a restructuring business model, a company uses eCommerce to perform differently activities that are both highly valued by

customers and amenable to significant change in cost or performance in order to provide superior value to the customers.

One prime example of a transformation model is Dell Computer that developed the capabilities to sell computers on-line directly to businesses (and consumers). Customers can browse an on-line Dell product catalog, configure a system, enter an order at a pre-negotiated price structure and receive on-line service and support. Dell reduces its costs by automating functions, eliminating distributors' margins and shortening its logistics chain to the end customer. Dell began its transformation of the computer industry before it developed its eCommerce capabilities; it as continued to gain competitive strength through eCommerce capabilities. Much of its current cost advantage and flexibility to meet customer needs comes from integration of product selection, ordering , assembly and shipping through its Internet structure.

Crafting a Business Model

Each of these business models uses eCommerce for a specific purpose, to create a new business, to extend current capabilities or to transform competitive position. Success is achieved by meeting customer needs within the context of a complete business. The art of creating a successful eCommerce business model comes in assembling all of the pieces so that they meet customer needs within an acceptable economic context.

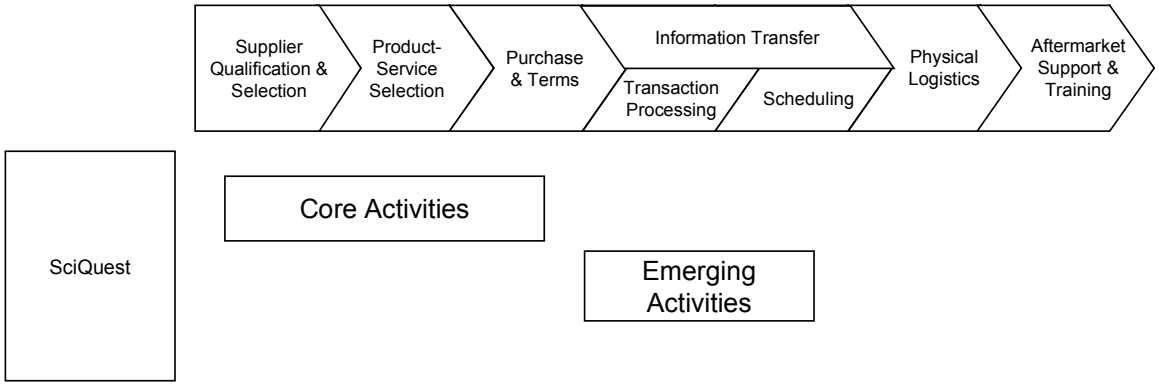
So far very few (if any) business models designed to create new, stand alone ventures have been successful financially. Many business extensions are emerging for suppliers, wholesaler/distributors and buyers. It is difficult to judge the success or failure of these endeavors since the eCommerce results are inseparable from the performance of the basic business (although clear disappointments and ineffective implementations are visible). Virtually no company has matched Dell's success in industry transformation although this could change soon as nascent efforts to use eCommerce to transform several industries start to mature.

The problems facing the new marketplaces are instructive on the difficulty in assembling a complete, coherent business model. Some of the new marketplaces have identified and addressed customer priorities and are improving service levels for key activities. In general, these marketplaces have not managed to fit their costs within the currently available gross margins. This misfit is, of course, fatal in the long (and rapidly shortening) term. In response, many of the marketplace operators are refocusing their business models to provide support services and software for buyers rather than continuing to operate marketplaces.

SciQuest.com, Inc., can serve as an example of an evolving eCommerce marketplace. SciQuest set out to become the leading marketplace serving pharmaceutical, biological and chemical researchers. SciQuest's premise is that these researchers need to identify and purchase many different types of laboratory products, supplies and equipment with no easily accessible source to find both the right product and a qualified supplier. SciQuest intended to fill this knowledge and product gap while also simplifying the purchasing process.

The SciQuest business model has a coherent approach to the first four activities in the purchasing process (Figure 4) and it has configured those activities to correspond to key customer priorities.

Figure 4: SciQuest's Approach



The first element in crafting a successful eCommerce business is to identify and serve a definable set of customers with clear priorities. Researchers in the pharmaceutical, biological and chemical fields are a clearly identifiable group of customers with similar needs and priorities. These fields are similar enough that the researchers have both common problems and come from similar backgrounds and training programs. They are likely to feel part of a single community.

One problem faced by these researchers is that the chemicals, supplies, and equipment required for their work varies from project to project. As a result, the researchers often seek unfamiliar supplies, possibly from suppliers with whom the researchers have no established relationships. Finding the right quality and availability materials and the most responsive suppliers takes precious time and effort away from more highly valued research tasks. Therefore, the potential customers want easier ways to find the materials they need accompanied by less time consuming purchasing processes while remaining within their laboratory budgets.

To respond to these customer priorities and to make itself an attractive sales channel for suppliers, SciQuest addressed four of the five sources of eCommerce benefits:

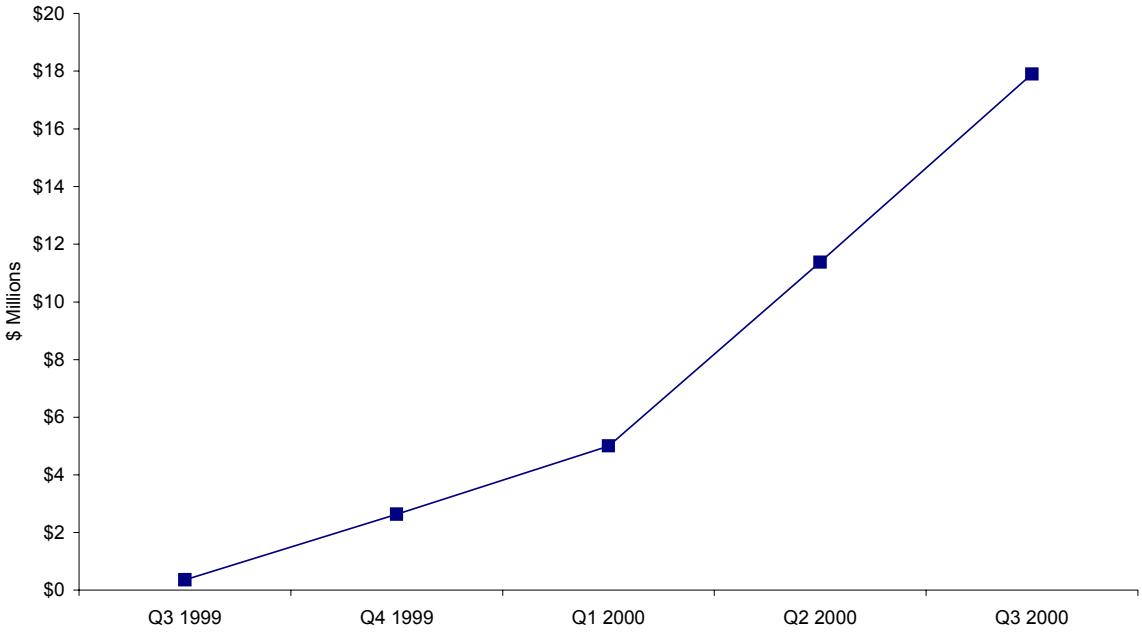
1. *Aggregate customers and expand list of potential suppliers:* SciQuest brings researchers to its marketplace first by solving a sourcing problem. It retains them by providing useful information and by continuing to solve recurring but relatively infrequent sourcing needs. Attracting and retaining potential customers from the diffuse world of researchers, in turn, makes the marketplace valuable to suppliers.
2. *Enhance and simplify product selection:* SciQuest makes product selection easier for researchers by maintaining a very broad range of chemicals, supplies and equipment so that the researcher's needs are usually met through one visit to the SciQuest marketplace. To make this process effective, SciQuest has also developed search capabilities that allow researchers to identify products quickly.

3. *Make pricing and terms more consistent:* SciQuest has made pricing and terms more visible and consistent to its customers through two features. First, consolidating purchasing to one visible site makes the process more consistent than shopping from multiple sources. Second, SciQuest has negotiated supply contracts with major customers providing them with standardized pricing across the range of products carried on the SciQuest site thus removing uncertainty and inconsistency inherent in purchasing from multiple discrete suppliers.
4. *Improve information transfer:* SciQuest has built relationships and data linkages with major Internet purchasing software suppliers such as Ariba, Commerce One or Oracle, allowing customers who uses theses or other compatible systems to integrate SciQuest into their own internal purchasing processes. SciQuest is also moving to integrate its information systems with its suppliers using both traditional EDI data interchange formats and emerging XML approaches.

The SciQuest model does not address the area of post sales service and support to any significant degree since this is not an area of high priority to SciQuest's customers.

SciQuest has managed the customer needs part of crafting a business model successfully. Its marketplace revenue has grown from $400 thousand in the third quarter of 1999 to $17.9 million in the third quarter of 2000 (Figure 5). The number of customers that are building their own customized SciQuest marketplaces is also increasing, growing from 43 in the second quarter of 2000 to 53 in the third quarter.

Figure 5: SciQuest eCommerce Revenues



Source: SciQuest financial reports

Unfortunately for SciQuest (along with its marketplace peers) , it has still not managed to create a profitable economic model for its marketplace. Its gross margins remain low, under 5% in most quarters. This level of gross margin is not likely to provide a sufficient economic envelope to support operating, development and marketing costs. Competing traditional wholesalers obtain higher gross margins but need to support more activities. Even so, the conventional alternatives to SciQuest have found ways to cover the costs of the activities they perform while also generating profits.

As a company strategy, SciQuest is migrating to support buyers by building and maintaining buyer-specific eCommerce engines. Resourceful companies adjust their business models to profitable arenas. As an example of eCommerce, the marketplace experience shows the powerful constraints imposed by the cost structures of traditional commerce on Internet businesses.

Implications

Achieving success in business-to-business eCommerce has not been simple and few have managed to create useful and profitable business models. In order to achieve success, any one of the three basic business models (new business, extension or transformation) must meet three criteria:

1. Meet clearly defined needs perceived as important by buyers
2. Perform all activities in the sales and distribution process that are expected by customers and achieve meaningful improvements in performance and/or reduction in cost for several of the activities
3. Keep its total costs for the seven activities at or below the cost structure of existing participants in the sales and distribution process or provide so much additional value to customers that the eCommerce business can charge premium prices

Suppliers and operators of new marketplaces will know that they have succeeded in meeting the first two criteria if they are able either to gain market share using the eCommerce model at current market prices (as SciQuest is doing) or if they are able to maintain share and charge a premium. In very rare circumstances, they may be able to offer additional products or services, thus generating new revenue for the industry and creating considerable value for the business model. Operators of successful eCommerce activities will also recognize success when a careful accounting of that activity indicates that it is profitable. While these do not seem to be heroic requirements, they are met infrequently. Attention to the fundamental requirements will help new eCommerce businesses reach success.

Shorey Consulting, Inc., is a strategy consulting practice dedicated to working interactively with clients in order to develop approaches for profitable growth in the face of change. It encourages thoughts, comments and additional examples of sales and distribution approaches as key elements in successful business models. Shorey Consulting can be reached at 617-850-6760 or at www.shoreyconsulting.com.