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## CHAPTER

# E-commerce Business Models and Concepts

#### LEARNING OBJECTIVES

#### After reading this chapter, you will be able to:

- Identify the key components of e-commerce business models.
- Describe the major B2C business models.
- Describe the major B2B business models.
- Recognize business models in other emerging areas of e-commerce.
- Understand key business concepts and strategies applicable to e-commerce.

## Online Groceries:

Up from the Embers

hen Webvan flamed out in July 2001 after having spent almost \$1 billion trying to build the Web's largest online grocery store based on huge distribution warehouses in seven U.S. cities, most pundits and investors thought the entire online grocery business model was either a failure or a fraud. Facing the costs of building an entirely new distribution system of warehouses and truck fleets to compete with existing grocery businesses, not

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to mention the expense of marketing, Webvan compounded its problems by offering below-market prices and free delivery of even small orders at just about any time of the day or night in urban areas often clogged with traffic. But the pundits did not count on Manhattan's FreshDirect—or the ability of traditional grocery chains to move into the ashes of the online grocery business to create solid, profitable businesses. Jupiter Research estimates that online grocery sales will garner sales of \$7.5 billion in 2008, and by 2012, sales are expected to grow to \$13.5 billion, a compound annual growth rate of about 17%. FreshDirect and other traditional firms are learning how to exploit this potential market with profitable business models.

Today, traditional firms such as California's huge Safeway Stores and Royal Ahold (Dutch owner of the U.S. Stop & Shop and Giant food stores, among others, and the Internet firm Peapod, which handles Internet shopping for Stop & Shop and Giant) are following the lead of the successful British grocer Tesco. Tesco is the largest chain of supermarkets in Britain and opened an online division in 1990. It differed from Webvan's effort because Tesco uses its current warehouse infrastructure and existing stores to put together the baskets of food for consumers. Customers can either pick up their baskets or have them delivered within a chosen time window for a fee that recoups most of the delivery costs. Tesco dominates the online grocery shopping market in the United Kingdom, with over 5.4 million unique visitors during the period March-May 2008, more than three times as many as its nearest competitor Tesco takes over 30,000 online orders per day. In the United States, Safeway's wholly-owned subsidiary GroceryWorks.com provides online shopping and delivery services for Safeway stores in

California, Oregon, Washington, Arizona, Maryland, Virginia, and the District of Columbia; and for Vons stores in Southern California and Las Vegas, Nevada. Customers register online, entering their personal information, including their frequent shopper cards. They are shown lists of recently purchased items to speed selection. The prices of goods are the same as those in the stores. Safeway has so-called "pickers" roam the aisles of nearby stores using a computerized picklist that directs them through the store in an efficient pattern, and even specifies the order of packing goods into bags. The orders are put into a van and delivered to the customer within a two-hour window for a fee of \$10. At Peapod.com, which serves Stop & Shop and Giant Food store customers in 18 regional markets, shoppers can view both their online ordering history and their off-line purchases at nearby stores during the previous four months. The Web site also features a shopping list that displays items in the order they can be found at the customer's local store. Customers have the option of ordering online or printing the shopping list and taking it to the store. For these traditional supermarket chains, the value being offered to customers is convenience and time savings at prices only marginally higher than self-shopping.

FreshDirect has a more revolutionary but also successful approach. In July 2002, Joe Fedele and Jason Ackerman founded FreshDirect as a new kind of high-quality and high-tech food preparation and delivery service in Manhattan, and raised \$120 million in venture funding. Operating out of a 300,000-square-foot plant in Queens—just across the river from Manhattan—FreshDirect trucks deliver groceries to densely populated Manhattan, Brooklyn, and Queens at prices 25% below what most New York grocers charge. It charges a \$5.49–\$6.79 delivery fee, depending on location and size of order, and requires a minimum order of \$30. The value proposition to consumers is convenience and time savings, but also higher quality at lower prices.

How can FreshDirect succeed at these prices? One answer is that FreshDirect concentrates on very fresh perishable foods and stays away from low-margin dry goods. For instance, the FreshDirect Web site features around 3,000 perishables and 3,000 packaged goods compared to the typical 25,000 packaged goods and 2,200 perishable items that a typical grocery store offers. To do so, FreshDirect created the most modern automated perishable food processing plant in the United States. While most of the factory is kept at 36 degrees to ensure freshness and quality control, dedicated areas vary from a low of minus 25 degrees for frozen foods to a high of 62 degrees in one of its specially designed fruit and vegetable rooms. At the factory, FreshDirect butchers meat from whole carcasses, makes its own sausage, cuts up its own fish, grinds coffee, bakes bread and pastries, and cooks entire prepared meals. FreshDirect co-founder Jason Ackerman likens FreshDirect to Dell Inc. in this regard: FreshDirect employs the same "make-to-order," manufacturer-direct philosophy as does Dell. Cleanliness is an obsession—the factory was built to exceed U.S. Department of Agriculture standards. The firm uses SAP software (an enterprise resource planning system) to track inventory, compile financial reports, tag products to fulfill customers' orders, and precisely control production down to the level of telling bakers how many bagels to cook each day and what temperature to use. It uses automated carousels and conveyors to bring orders to food-prep workers and packers. The FreshDirect Web site is powered by BEA Systems'

Weblogic platform, which can track customer preferences, such as the level of fruit ripeness desired, or the preferred weight of a cut of meat. FreshDirect also uses NetTracker, Web site traffic and online behavior analysis software, to help it better understand and market to its online customers. At peak times, the Web site has handled up to 18,000 simultaneous shopping sessions. The final piece in the formula for profit is a supply chain that includes dealing directly with manufacturers and growers, thus cutting out the costs of middle-level distributors and the huge chains themselves. FreshDirect does not accept slotting fees—payments made by manufacturers for shelf space. Instead, it asks suppliers to help it direct market to consumers and to lower prices. To further encourage lower prices from suppliers, FreshDirect pays them in four business days after delivery, down from the industry pattern of 35 days.

As of July 2008, FreshDirect delivers to around 160 zip codes in the New York City metropolitan area and adjacent suburbs. It has fulfilled more than 6 million orders since opening for business, had annual revenue in 2007 of around \$240 million, and is reportedly profitable. Typical order size has grown from \$79 to over \$145 dollars; the number of orders per week averages around 40,000; and the company has about 250,000 active customers. But despite all this success, FreshDirect has remained conservative. According to Jason Ackerman, what FreshDirect learned from Webvan's demise was that: "This is a very complex business, and the customer demands perfection every time we fill an order. Webvan's rapid expansion was unmanageable... no matter how good the executive team." Although in January 2007, FreshDirect reaffirmed that it had no plans to take its business model nationwide any time soon, by January 2008, the company had begun to change its tune, with FreshDirect's chief marketing officer Steve Druckman stating, "We won't just stay regional. It's a matter of time."

FreshDirect also says its not concerned about the prospect of competing with Amazon, which entered the online grocery marketspace in June 2006. Initially, Amazon offered only nonperishable foods, such as pasta, cereal, and canned goods. But in August 2007, Amazon, taking a page from the FreshDirect playbook, launched a micro site, Fresh.Amazon.com, which offers locally grown fresh meat, fruit, and vegetables. The site was initially available only to invited customers who lived on Mercer Island, a suburb located near Amazon's Seattle distribution center, but has since expanded to serve 24 zip codes in the Seattle metropolitan area. According to business analyst John Hauptman, "What they are doing with this pilot looks a lot like the business model FreshDirect successfully implemented in New York."

Should FreshDirect start to worry?

SOURCES: "FreshDirect-Help-FAQs," FreshDirect.com, July 3, 2008; Peapod LLC Corporate Fact Sheet," Peapod.com, July 3, 2008; "SimonDelivers More," by Gene Rebeck, Twin Cities Business. March 2008; "Safeway.com Grows by Nearly 33% in 2007," Internet Retailer, February 27, 2008; "FreshDirect Sees Broader Market Horizons Ahead," Internet Retailer, January 16, 2008; "Grocery-Works.com, LLC," Google Finance, August 22, 2007; "Amazon Gets Fresh with an Expanded Grocery Service," Internet Retailer, August 3, 2007; "FreshDirect Celebrates Five Year Anniversary," PRNewswire, July 9, 2007; "FreshDirect Staying Close to Home," Internet Retailer, January 24, 2007; "Online Grocer Peapod Goes Multi-Channel with Stop & Shop and Giant Food," Internet Retailer, January 31, 2007; "Tesco Dominates Internet Shopping," ZDNet.co.uk, August 24, 2006; "A Fresh Approach to Technology," by Darrell Dunn, Information Week, January 24, 2005; "Web Grocer Hits Refresh," by Jennifer Harsany, PC Magazine, May 18, 2004; "FreshDirect: Ready to Deliver," by Larry Dignan, Baseline, February 17, 2004; "What FreshDirect Learned from Dell," by Tim Laseter, Barrie Berg, and Martha Turner, Stategy+ Business, Spring 2003.

he story of FreshDirect illustrates the difficulties of turning a good business idea into a good business model. FreshDirect and the other "new" online groceries work as business models because their managers have very carefully thought out the operational details of their ideas, and they have executed these ideas with efficiency and precision.

In the early days of e-commerce, thousands of firms discovered they could spend other people's invested capital much faster than they could get customers to pay for their products or services. In most instances of failure, the business model of the firm was faulty from the very beginning. In contrast, successful e-commerce firms have business models that are able to leverage the unique qualities of the Web, provide customers real value, develop highly effective and efficient operations, avoid legal and social entanglements that can harm the firm, and produce profitable business results. In addition, successful business models must scale. The business must be able to achieve efficiencies as it grows in volume. But what is a business model, and how can you tell if a firm's business model is going to produce a profit?

In this chapter, we focus on business models and basic business concepts that you must be familiar with in order to understand e-commerce.

#### 2.1 E-COMMERCE BUSINESS MODELS

#### **INTRODUCTION**

A **business model** is a set of planned activities (sometimes referred to as *business processes*) designed to result in a profit in a marketplace. A business model is not always the same as a business strategy although in some cases they are very close insofar as the business model explicitly takes into account the competitive environment (Magretta, 2002). The business model is at the center of the business plan. A **business plan** is a document that describes a firm's business model. A business plan always takes into account the competitive environment. An **e-commerce business model** aims to use and leverage the unique qualities of the Internet and the World Wide Web (Timmers, 1998).

#### **EIGHT KEY ELEMENTS OF A BUSINESS MODEL**

If you hope to develop a successful business model in any arena, not just e-commerce, you must make sure that the model effectively addresses the eight elements listed in **Table 2.1**. These elements are: value proposition, revenue model, market opportunity, competitive environment, competitive advantage, market strategy, organizational development, and management team (Ghosh, 1998). Many writers focus on a firm's value proposition and revenue model. While these may be the most important and most easily identifiable aspects of a company's business model, the other elements are equally important when evaluating business models and plans, or when attempting to understand why a particular company has succeeded or failed (Kim and Mauborgne, 2000). In the following section, we describe each of the key business model elements more fully.

#### business model

a set of planned activities designed to result in a profit in a marketplace

#### business plan

a document that describes a firm's business model

## e-commerce business model

a business model that aims to use and leverage the unique qualities of the Internet and the World Wide Web

TABLE 2.1 KEY ELEMENTS OF A BUSINESS MODEL		
COMPONENTS	KEY QUESTIONS	
Value proposition	Why should the customer buy from you?	
Revenue model	How will you earn money?	
Market opportunity	What marketspace do you intend to serve, and what is its size?	
Competitive environment	Who else occupies your intended marketspace?	
Competitive advantage	What special advantages does your firm bring to the marketspace?	
Market strategy	How do you plan to promote your products or services to attract your target audience?	
Organizational development	What types of organizational structures within the firm are necessary to carry out the business plan?	
Management team	What kinds of experiences and background are important for the company's leaders to have?	

#### **Value Proposition**

A company's value proposition is at the very heart of its business model. A **value proposition** defines how a company's product or service fulfills the needs of customers (Kambil, Ginsberg, and Bloch, 1998). To develop and/or analyze a firm's value proposition, you need to understand why customers will choose to do business with the firm instead of another company and what the firm provides that other firms do not and cannot. From the consumer point of view, successful e-commerce value propositions include: personalization and customization of product offerings, reduction of product search costs, reduction of price discovery costs, and facilitation of transactions by managing product delivery (Kambil, 1997; Bakos, 1998).

FreshDirect, for instance, primarily is offering customers the freshest perishable food in New York, direct from the growers and manufacturers, at the lowest prices, delivered to their homes at night. Although local supermarkets can offer fresh food also, customers need to spend an hour or two shopping at those stores every week. Convenience and saved time are very important elements in FreshDirect's value proposition to customers.

Before Amazon existed, most customers personally traveled to book retailers to place an order. In some cases, the desired book might not be available and the customer would have to wait several days or weeks, and then return to the bookstore to pick it up. Amazon makes it possible for book lovers to shop for virtually any book in print from the comfort of their home or office, 24 hours a day, and to know immediately whether a book is in stock. Amazon's primary value propositions are unparalleled selection and convenience.

#### value proposition

defines how a company's product or service fulfills the needs of customers

In many cases, companies develop their value proposition based on current market conditions or trends. Consumers' increasing emphasis on fresh perishable foods—as opposed to frozen or canned goods—is a trend FreshDirect's founders took note of, just as Starbucks' founders saw the growing interest in and demand for coffee bars nationwide. Both companies watched the market and then developed their value proposition to meet what they perceived to be consumers' demand for certain products and services.

#### Revenue Model

# A firm's **revenue model** describes how the firm will earn revenue, generate profits, and produce a superior return on invested capital. We use the terms *revenue model* and *financial model* interchangeably. The function of business organizations is both to generate profits and to produce returns on invested capital that exceed alternative investments. Profits alone are not sufficient to make a company "successful" (Porter, 1985). In order to be considered successful, a firm must produce returns greater than alternative investments. Firms that fail this test go out of existence.

Retailers, for example, sell a product, such as a personal computer, to a customer who pays for the computer using cash or a credit card. This produces revenue. The merchant typically charges more for the computer than it pays out in operating expenses, producing a profit. But in order to go into business, the computer merchant had to invest capital—either by borrowing or by dipping into personal savings. The profits from the business constitute the return on invested capital, and these returns must be greater than the merchant could obtain elsewhere, say, by investing in real estate or just putting the money into a savings account.

Although there are many different e-commerce revenue models that have been developed, most companies rely on one, or some combination, of the following major revenue models: the advertising model, the subscription model, the transaction fee model, the sales model, and the affiliate model.

In the **advertising revenue model**, a Web site that offers its users content, services, and/or products also provides a forum for advertisements and receives fees from advertisers. Those Web sites that are able to attract the greatest viewership or that have a highly specialized, differentiated viewership and are able to retain user attention ("stickiness") are able to charge higher advertising rates. Yahoo, for instance, derives a significant amount of revenue from search engine and other forms of online advertising.

In the **subscription revenue model**, a Web site that offers its users content or services charges a subscription fee for access to some or all of its offerings. For instance, the online version of *Consumer Reports* provides access to premium content, such as detailed ratings, reviews and recommendations, only to subscribers, who have a choice of paying a \$5.95 monthly subscription fee or a \$26.00 annual fee. Experience with the subscription revenue model indicates that to successfully overcome the disinclination of users to pay for content on the Web, the content offered must be perceived as a high-value-added, premium offering that is not read-

#### revenue model

describes how the firm will earn revenue, produce profits, and produce a superior return on invested capital

## advertising revenue model

a company provides a forum for advertisements and receives fees from advertisers

## subscription revenue model

a company offers its users content or services and charges a subscription fee for access to some or all of its offerings

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ily available elsewhere nor easily replicated. Companies successfully offering content or services online on a subscription basis include Match.com and eHarmony (dating services), Ancestry.com (see **Figure 2.1**) and Genealogy.com (genealogy research), Microsoft's Xboxlive.com (video games), Rhapsody Online (music), among others.

In the **transaction fee revenue model**, a company receives a fee for enabling or executing a transaction. For example, eBay provides an online auction marketplace and receives a small transaction fee from a seller if the seller is successful in selling the item. E\*Trade, an online stockbroker, receives transaction fees each time it executes a stock transaction on behalf of a customer.

In the **sales revenue model**, companies derive revenue by selling goods, information, or services to customers. Companies such as Amazon (which sells books, music, and other products), LLBean.com, and Gap.com, all have sales revenue models.

In the **affiliate revenue model**, sites that steer business to an "affiliate" receive a referral fee or percentage of the revenue from any resulting sales. For example, MyPoints makes money by connecting companies with potential customers by offering special deals to its members. When they take advantage of an offer and make a purchase, members earn "points" they can redeem for

## transaction fee revenue model

a company receives a fee for enabling or executing a transaction

#### sales revenue model

a company derives revenue by selling goods, information, or services

#### affiliate revenue model

a company steers business to an affiliate and receives a referral fee or percentage of the revenue from any resulting sales

TABLE 2.2	FIVE PRIMARY REVENUE MODELS		
REVENUE MOD	EL EXAMPLES	REVENUE SOURCE	
Advertising	Yahoo	Fees from advertisers in exchange for advertisements	
Subscription	WSJ.com Consumerreports.org	Fees from subscribers in exchange for access to content or services	
Transaction Fee	eBay E-Trade	Fees (commissions) for enabling or executing a transaction	
Sales	Amazon LLBean Gap JCPenny.com	Sales of goods, information, or services	
Affiliate	MyPoints	Fees for business referrals	

freebies, and MyPoints receives a fee. Community feedback sites such as Epinions receive much of their revenue from steering potential customers to Web sites where they make a purchase.

**Table 2.2** summarizes these major revenue models.

#### **Market Opportunity**

The term **market opportunity** refers to the company's intended **marketspace** (i.e., an area of actual or potential commercial value) and the overall potential financial opportunities available to the firm in that marketspace. The market opportunity is usually divided into smaller market niches. The realistic market opportunity is defined by the revenue potential in each of the market niches where you hope to compete.

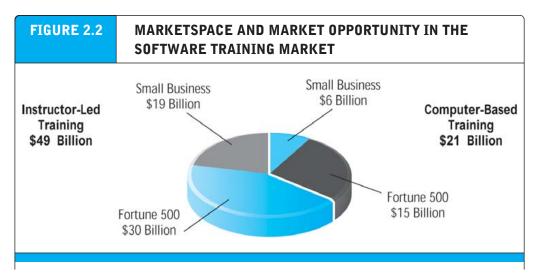
For instance, let's assume you are analyzing a software training company that creates software-learning systems for sale to corporations over the Internet. The overall size of the software training market for all market segments is approximately \$70 billion. The overall market can be broken down, however, into two major market segments: instructor-led training products, which comprise about 70% of the market (\$49 billion in revenue), and computer-based training, which accounts for 30% (\$21 billion). There are further market niches within each of those major market segments, such as the Fortune 500 computer-based training market and the small business computer-based training market. Because the firm is a startup firm, it cannot compete effectively in the large business, computer-based training market (about \$15 billion). Large brand-name training firms dominate this niche. The startup firm's real market opportunity is to sell to the thousands of small business firms who spend about \$6 billion on computer-based software training and who desperately need a cost-effective training solution. This is the size of the firm's realistic market opportunity (see **Figure 2.2**).

#### market opportunity

refers to the company's intended marketspace and the overall potential financial opportunities available to the firm in that marketspace

#### marketspace

the area of actual or potential commercial value in which a company intends to operate



Marketspaces are composed of many market segments. Your realistic market opportunity will typically focus on one or a few market segments.

#### **Competitive Environment**

A firm's **competitive environment** refers to the other companies selling similar products and operating in the same marketspace. It also refers to the presence of substitute products and potential new entrants to the market, as well as the power of customers and suppliers over your business. We discuss the firm's environment later in the chapter. The competitive environment for a company is influenced by several factors: how many competitors are active, how large their operations are, what the market share of each competitor is, how profitable these firms are, and how they price their products.

Firms typically have both direct and indirect competitors. Direct competitors are those companies that sell products and services that are very similar and into the same market segment. For example, Priceline and Travelocity, both of whom sell discount airline tickets online, are direct competitors because both companies sell identical products—cheap tickets. Indirect competitors are companies that may be in different industries but still compete indirectly because their products can substitute for one another. For instance, automobile manufacturers and airline companies operate in different industries, but they still compete indirectly because they offer consumers alternative means of transportation. CNN.com, a news outlet, is an indirect competitor of ESPN.com not because they sell identical products, but because they both compete for consumers' time online.

The existence of a large number of competitors in any one segment may be a sign that the market is saturated and that it may be difficult to become profitable. On the other hand, a lack of competitors could either signal an untapped market niche ripe for the picking or a market that has already been tried without success because there is no money to be made. Analysis of the competitive environment can help you decide which it is.

## competitive environment

refers to the other companies operating in the same marketspace selling similar products

#### competitive advantage

achieved by a firm when it can produce a superior product and/or bring the product to market at a lower price than most, or all, of its competitors

#### asymmetry

exists whenever one participant in a market has more resources than other participants

#### first-mover advantage

a competitive market advantage for a firm that results from being the first into a marketplace with a serviceable product or service

## complimentary resources

resources and assets not directly involved in the production of the product but required for success, such as marketing, management, financial assets, and reputation

## unfair competitive advantage

occurs when one firm develops an advantage based on a factor that other firms cannot purchase

#### **Competitive Advantage**

Firms achieve a **competitive advantage** when they can produce a superior product and/or bring the product to market at a lower price than most, or all, of their competitors (Porter, 1985). Firms also compete on scope. Some firms can develop global markets, while other firms can only develop a national or regional market. Firms that can provide superior products at lowest cost on a global basis are truly advantaged.

Firms achieve competitive advantages because they have somehow been able to obtain differential access to the factors of production that are denied to their competitors—at least in the short term (Barney, 1991). Perhaps the firm has been able to obtain very favorable terms from suppliers, shippers, or sources of labor. Or perhaps the firm has more experienced, knowledgeable, and loyal employees than any competitors. Maybe the firm has a patent on a product that others cannot imitate, or access to investment capital through a network of former business colleagues or a brand name and popular image that other firms cannot duplicate. An **asymmetry** exists whenever one participant in a market has more resources—financial backing, knowledge, information, and/or power—than other participants. Asymmetries lead to some firms having an edge over others, permitting them to come to market with better products, faster than competitors, and sometimes at lower cost.

For instance, when Steven Jobs, CEO and founder of Apple Computer, announced iTunes, a new service offering legal, downloadable individual song tracks for 99 cents a tune that would be playable on Apple iPods or Apple desktops, the company was given better than average odds of success simply because of Apple's prior success with innovative hardware designs, and the large stable of music labels which Apple had meticulously lined up to support its online music catalog. Few competitors could match the combination of cheap, legal songs and powerful hardware to play them on.

One rather unique competitive advantage derives from being first mover. A **first-mover advantage** is a competitive market advantage for a firm that results from being the first into a marketplace with a serviceable product or service. If first movers develop a loyal following or a unique interface that is difficult to imitate, they can sustain their first-mover advantage for long periods (Arthur, 1996). Amazon provides a good example. However, in the history of technology-driven business innovation, most first movers lack the **complimentary resources** needed to sustain their advantages, and often follower firms reap the largest rewards (Rigdon, 2000; Teece, 1986). Indeed, many of the success stories we discuss in this book are those of companies that were slow followers—businesses that gained knowledge from failure of pioneering firms and entered into the market late.

Some competitive advantages are called "unfair." An **unfair competitive advantage** occurs when one firm develops an advantage based on a factor that other firms cannot purchase (Barney, 1991). For instance, a brand name cannot be purchased and is in that sense an "unfair" advantage. As we will discuss in Chapter 6, brands are built upon loyalty, trust, reliability, and quality. Once obtained, they are difficult to copy or imitate, and they permit firms to charge premium prices for their products.

In **perfect markets**, there are no competitive advantages or asymmetries because all firms have access to all the factors of production (including information and knowledge) equally. However, real markets are imperfect, and asymmetries leading to competitive advantages do exist, at least in the short term. Most competitive advantages are short term, although some—such as the competitive advantage enjoyed by Coca-Cola because of the Coke brand name—can be sustained for very long periods. But not forever: Coke is increasingly being challenged by fruit, health, and unique flavor drinks.

Companies are said to **leverage** their competitive assets when they use their competitive advantages to achieve more advantage in surrounding markets. For instance, Amazon's move into the online grocery business leverages the company's huge customer database and years of e-commerce experience.

#### **Market Strategy**

No matter how tremendous a firm's qualities, its marketing strategy and execution are often just as important. The best business concept, or idea, will fail if it is not properly marketed to potential customers.

Everything you do to promote your company's products and services to potential customers is known as marketing. **Market strategy** is the plan you put together that details exactly how you intend to enter a new market and attract new customers.

Part of FreshDirect's strategy, for instance, is to develop close supply chain partnerships with growers and manufacturers so it purchases goods at lower prices directly from the source. This helps FreshDirect lower its prices for consumers. By partnering with suppliers that could benefit from FreshDirect's access to consumers, FreshDirect is attempting to extend its competitive advantages.

YouTube and PhotoBucket have a social network marketing strategy which encourages users to post their content on the sites for free, build personal profile pages, contact their friends, and build a community. In these cases, the customer is the marketing staff!

#### **Organizational Development**

Although many entrepreneurial ventures are started by one visionary individual, it is rare that one person alone can grow an idea into a multi-million dollar company. In most cases, fast-growth companies—especially e-commerce businesses—need employees and a set of business procedures. In short, all firms—new ones in particular—need an organization to efficiently implement their business plans and strategies. Many e-commerce firms and many traditional firms who attempt an e-commerce strategy have failed because they lacked the organizational structures and supportive cultural values required to support new forms of commerce (Kanter, 2001).

Companies that hope to grow and thrive need to have a plan for **organizational development** that describes how the company will organize the work that needs to be accomplished. Typically, work is divided into functional departments, such as production, shipping, marketing, customer support, and finance. Jobs within these functional areas are defined, and then recruitment begins for specific job titles and

#### perfect market

a market in which there are no competitive advantages or asymmetries because all firms have equal access to all the factors of production

#### leverage

when a company uses its competitive advantages to achieve more advantage in surrounding markets

#### market strategy

the plan you put together that details exactly how you intend to enter a new market and attract new customers

## organizational development

plan describes how the company will organize the work that needs to be accomplished responsibilities. Typically, in the beginning, generalists who can perform multiple tasks are hired. As the company grows, recruiting becomes more specialized. For instance, at the outset, a business may have one marketing manager. But after two or three years of steady growth, that one marketing position may be broken down into seven separate jobs done by seven individuals.

For instance, eBay founder Pierre Omidyar started an online auction site, according to some sources, to help his girlfriend trade PEZ dispensers with other collectors, but within a few months the volume of business had far exceeded what he alone could handle. So he began hiring people with more business experience to help out. Soon the company had many employees, departments, and managers who were responsible for overseeing the various aspects of the organization.

#### **Management Team**

Arguably, the single most important element of a business model is the **management team** responsible for making the model work. A strong management team gives a model instant credibility to outside investors, immediate market-specific knowledge, and experience in implementing business plans. A strong management team may not be able to salvage a weak business model, but the team should be able to change the model and redefine the business as it becomes necessary.

Eventually, most companies get to the point of having several senior executives or managers. How skilled managers are, however, can be a source of competitive advantage or disadvantage. The challenge is to find people who have both the experience and the ability to apply that experience to new situations.

To be able to identify good managers for a business startup, first consider the kinds of experiences that would be helpful to a manager joining your company. What kind of technical background is desirable? What kind of supervisory experience is necessary? How many years in a particular function should be required? What job functions should be fulfilled first: marketing, production, finance, or operations? Especially in situations where financing will be needed to get a company off the ground, do prospective senior managers have experience and contacts for raising financing from outside investors?

#### **CATEGORIZING E-COMMERCE BUSINESS MODELS: SOME DIFFICULTIES**

There are many e-commerce business models, and more are being invented every day. The number of such models is limited only by the human imagination, and our list of different business models is certainly not exhaustive. However, despite the abundance of potential models, it is possible to identify the major generic types (and subtle variations) of business models that have been developed for the e-commerce arena and describe their key features. It is important to realize, however, that there is no one correct way to categorize these business models.

Our approach is to categorize business models according to the different e-commerce sectors—B2C, B2B, C2C, etc.—in which they are utilized. You will note, however, that fundamentally similar business models may appear in more than one sector. For example, the business models of online retailers (often called e-tailers) and e-distributors are quite similar. However, they are distinguished by the market focus of the sector in which they are used. In the case of e-tailers in the B2C sector, the

#### management team

employees of the company responsible for making the business model work business model focuses on sales to the individual consumer, while in the case of the e-distributor, the business model focuses on sales to another business.

The type of e-commerce technology involved can also affect the classification of a business model. M-commerce, for instance, refers to e-commerce conducted over wireless networks. The e-tail business model, for instance, can also be used in m-commerce, and while the basic business model may remain fundamentally the same as that used in the B2C sector, it will nonetheless have to be adapted to the special challenges posed by the m-commerce environment.

Finally, you will also note that some companies use multiple business models. For instance, eBay can be considered as a B2C market maker. At the same time, eBay can also be considered as having a C2C business model. If eBay adopts wireless mobile computing, allowing customers to bid on auctions from their cell phone or wireless Web devices, then eBay may also be described as having a B2C m-commerce business model. We can expect many companies will have closely related B2C, B2B, and m-commerce variations on their basic business model. The purpose will be to leverage investments and assets developed with one business model into a new business model.

#### 2.2 MAJOR BUSINESS-TO-CONSUMER (B2C) BUSINESS MODELS

Business-to-consumer (B2C) e-commerce, in which online businesses seek to reach individual consumers, is the most well-known and familiar type of e-commerce. **Table 2.3** illustrates the major business models utilized in the B2C arena.

#### **PORTAL**

Portals such as Yahoo, MSN/Windows Live, and AOL offer users powerful Web search tools as well as an integrated package of content and services, such as news, e-mail, instant messaging, calendars, shopping, music downloads, video streaming, and more, all in one place. Initially, portals sought to be viewed as "gateways" to the Internet. Today, however, the portal business model is to be a destination site. They are marketed as places where consumers will want to start their Web searching and hopefully stay a long time to read news, find entertainment, and meet other people (think of destination resorts). Portals do not sell anything directly-or so it seemsand in that sense they can present themselves as unbiased. The market opportunity is very large: In 2008, about 173 million people in the United States had access to the Internet at work or home (eMarketer, Inc., 2008a). Portals generate revenue primarily by charging advertisers for ad placement, collecting referral fees for steering customers to other sites, and charging for premium services. AOL, MSN (in conjunction with Verizon), and Yahoo (in conjunction with AT&T)—which in addition to being portals are also Internet Service Providers (ISPs) that provide access to the Internet and the Web-add an additional revenue stream: monthly subscription fees for access.

Although there are numerous portal/search engine sites, the top five sites (Google, Yahoo, MSN/Windows Live, AOL, and Ask.com) gather more than 95% of the search engine traffic because of their superior brand recognition (Nielsen Online,

#### portal

offers users powerful Web search tools as well as an integrated package of content and services all in one place

TABLE 2.3	B2C BUSINESS MODELS			
B U S I N E S S M O D E L	VARIATIONS	EXAMPLES	DESCRIPTION	R E V E N U E M O D E L
Portal	Horizontal/General	Yahoo AOL MSN	Offers an integrated package of content and content-search, services news, e-mail, chat, music downloads, video streaming, calendars, etc. Seeks to be a user's home base	Advertising, subscription fees, transaction fees
	Vertical/Specialized (Vortal)	Sailnet	Offers services and products to specialized marketplace	Same
	Search	Google Ask.com	Focuses primarily on offering search services	Advertising, affiliate referral
	Virtual Merchant	Amazon	Online version of retail store, where customers can shop at any hour of the day or night without leaving their home or office	Sales of goods
	Bricks-and-clicks	Walmart.com Sears.com	Online distribution channel for a company that also has physical stores	Same
	Catalog Merchant	LLBean.com LillianVernon.com	Online version of direct mail catalog	Same
	Manufacturer-direct	Dell.com Mattel.com Sony.com	Manufacturer uses online channel to sell direct to customer	Same
Content Provider		WSJ.com Sportline.com CNN.com ESPN.com RealRhapsody	Information and entertainment providers such as newspapers, sports sites, and other online sources that offer customers up-to-date news and special interest how-to guidance and tips and/or information sales	Advertising, subscription fees, affiliate referral fees
Transaction Broker		E-Trade Expedia Monster Travelocity Hotels.com Orbitz	Processors of online sales transactions, such as stockbrokers and travel agents, that increase customers' productivity by helping them get things done faster and more cheaply	Transaction fees
Market Creator		eBay Priceline	Web-based businesses that use Internet technology to create markets that bring buyers and sellers together	Transaction fees
Service Provider		VisaNow.com xDrive.com Linklaters BlueFlag	Companies that make money by selling users a service, rather than a product	Sales of services
Community Provider		iVillage Friendster MySpace Facebook About.com	Sites where individuals with particular interests, hobbies, common experiences, or social networks can come together and "meet" online	Advertising, subscription, affiliate referral fees

2008). Many of the top sites were among the first to appear on the Web and therefore had first-mover advantages. Being first confers advantage because customers come to trust a reliable provider and experience switching costs if they change to late arrivals in the market. By garnering a large chunk of the marketplace, first-movers—just like a single telephone network—can offer customers access to commonly shared ideas, standards, and experiences (something called *network externalities* that we describe in later chapters).

Yahoo, AOL, MSN/Windows Live, and others like them are considered to be horizontal portals because they define their marketspace to include all users of the Internet. Vertical portals (sometimes called vortals) attempt to provide similar services as horizontal portals, but are focused around a particular subject matter or market segment. For instance, Sailnet specializes in the consumer sailboat market that contains about 8 million Americans who own or rent sailboats. Although the total number of vortal users may be much lower than the number of portal users, if the market segment is attractive enough, advertisers are willing to pay a premium in order to reach a targeted audience. Also, visitors to specialized niche vortals spend more money than the average Yahoo visitor. Google and Ask.com can also be considered portals of a sort, but currently focus primarily on offering search services. They generate revenues primarily from search engine advertising sales and also from affiliate referral fees. For more information, see *Insight on Technology: Search, Ads, and Apps: the Future for Google (and Microsoft)*.

#### **E-TAILER**

Online retail stores, often called **e-tailers**, come in all sizes, from giant Amazon to tiny local stores that have Web sites. E-tailers are similar to the typical bricks-and-mortar storefront, except that customers only have to connect to the Internet to check their inventory and place an order. Some e-tailers, which are referred to as "bricks-and-clicks," are subsidiaries or divisions of existing physical stores and carry the same products. JCPenney, Barnes & Noble, Wal-Mart, and Staples are four examples of companies with complementary online stores. Others, however, operate only in the virtual world, without any ties to physical locations. Amazon, BlueNile.com, and Drugstore.com are examples of this type of e-tailer. Several other variations of e-tailers—such as online versions of direct mail catalogs, online malls, and manufacturer-direct online sales—also exist (Gulati and Garino, 2000).

Given that the overall retail market in the United States in 2008 is estimated to be around \$4 trillion, the market opportunity for e-tailers is very large (U.S. Census Bureau, Economic and Statistics Administration, 2008). Every Internet user is a potential customer. Customers who feel time-starved are even better prospects, since they want shopping solutions that will eliminate the need to drive to the mall or store (Bellman, Lohse, and Johnson, 1999). The e-tail revenue model is product-based, with customers paying for the purchase of a particular item.

This sector is extremely competitive, however. Since **barriers to entry** (the total cost of entering a new marketplace) into the Web e-tail market are low, tens of thousands of small e-tail shops have sprung up on the Web. Becoming profitable and surviving is very difficult, however, for e-tailers with no prior brand name or experi-

**e-tailer** online retail store

#### barriers to entry

the total cost of entering a new marketplace

## **INSIGHT ON TECHNOLOGY**

## SEARCH, ADS, AND APPS: THE FUTURE FOR GOOGLE (AND MICROSOFT)

When the Web was first invented, no one envisaged that by 2008 online search would grow to a more than \$10 billion dollar business. In

fact, early pundits thought that online search would be a commodity business, at best a small niche player in e-commerce. But in 2008, with paid search spending comprising more than 40% of the U.S. online advertising market, and paid search ad spending growing at around 20% a year over the past several years, the search engine market is booming, along with the larger Internet advertising marketplace now estimated at about \$26 billion. About 85% of Internet users in the United States use a search engine at least once during a month. The top ten search engines in May 2008 conducted an estimated 7.8 billion searches, an average of about 250 million a day. No one knows the ultimate demand for search on the Web, but as the cost (both in terms of money and time) of searching declines, and the power of search engines increases, it is now apparent that search will be a major Web-based industry driven in large part by advances in technology. What is less apparent is who exactly will dominate this marketspace and what role technology (as opposed to marketing muscle or economics) will play in the ultimate outcome. Where's the money in search? A related question is how many search engines will remain when the competition is over.

Today, five Web sites account for over 95% of all Web searches: Google (59.3%), Yahoo (16.9%), MSN/Windows Live Search (13.3%), AOL (4.1%), and Ask.com (2.1%). The real powerhouses of search are Google and Yahoo, which provide over 75% of all searches. Microsoft unveiled its own proprietary search technology in February 2005, and has made some progress at the expense of Yahoo and Ask.com.

AOL does not have an independent search capability but instead purchases all of its search results and online ads from Google.

Of these firms, Google stands out as the only "pure" search engine for which search is the major line of business, whereas the other firms are either content portals (Yahoo and AOL) or, in the case of Microsoft, the provider of 95% of the world's desktop computer operating systems. In 2004, Google became a public company, greatly expanding its capital foundation to support further growth. Google's securities filings with the Securities and Exchange Commission show just how profitable the search business has become. In 2007, Google reported revenue of \$16.6 billion, 99% of which it derived from various forms of search-based advertising. Google's net income (profit) was \$4.2 billion. While Google started out as a search company with unique technology as the basis of its business model, search and search engine advertising growth have started to slow somewhat (from 100% annual increases, to 20% in 2007, and an estimated 15% in 2011). In response, Google is turning into a three-play company: search, advertising, and apps (applications).

Leadership in the search engine industry has changed hands several times. In the first round of the search engine wars, the original keyword search engines such as Alta Vista were replaced by Google, which claimed to possess superior technology, and Yahoo, which offered content, not just search. In the second round, an upstart firm named GoTo.com exploded onto the scene and created the marketplace for paid placement on search engines. Rather than be at the mercy of obscure search engine ranking rules, pay-for-placement allowed firms to pay for

(continued)

### NOT AVAILABLE FOR ELECTRONIC VIEWING

a top ranking, and then pay only when they received a click. GoTo.com grew to become Overture.com and in a few years equaled the size of Google. Overture was purchased by Yahoo in 2003.

Google achieved its early and powerful lead in the search business through superior software technology, a highly efficient computer hardware architecture, and excellent Web site design. Google was started in 1998 by two enterprising Stanford grad students, Sergey Brin and Larry Page, who were studying data mining and the process of analyzing data for patterns. That research later became the basis of their business, Google, which can search millions of Web pages in less than a second. Early search engines like Alta Vista (which once had 90% of the search market) merely counted how many times a search term appeared on a given Web page to determine where to rank a particular page. If you searched on "iPhone," Alta Vista would show you pages ranked in terms of the number of times the Web site's home page, and other pages, contained the word "iPhone." Google's search, on the other hand, uses the popularity of Web pages as the

most important criteria for ranking pages, as well as the page content. The more other Web pages link to a particular page, the higher it jumps Google's ranking structure called Page-Rank. This is called "link analysis" and is run independently of the query being made. Once all the Web's indexed pages are ranked, Google factors in other information, such as the text content of a page, its link

structure, proximity of search words to one another on the page, fonts, heading, and text of nearby pages. The company uses a number of software algorithms to carry out each search, drawing on the power of an undisclosed number of servers (rumored to be anywhere from 100,000 to 450,000) located in server "farms" throughout the world. Some people believe Google has the largest computing system in the world.

It is unclear if Google can maintain its technological edge in search given the investments being made by both Yahoo and Microsoft, as well as the proliferation of several other smaller but popular search engines such as AOL (4% of searches) and Ask.com (2% of searches). The original PageRank patent is owned by Stanford University, where it was created, and expires in 2017. Larry Page and Sergey Brin have an exclusive license until 2011, after which time their license is not exclusive. The validity of that patent has not been tested and there are ways to design around it. The concept of analyzing a social network, and ranking the "influence of participants" in terms of who receives and sends the most

(continued)

communications (links) is hardly original to Google, but instead was a basic insight of sociologists in the 1950s who studied communities as social networks. In the competition among search engines, it is clear that search alone is not the key ingredient, just the foundation for the winning hand. It's a necessary but not sufficient condition for success.

Google's strategy has been to extend its advantages in search into two areas and try to "out-invent" the competition. These new areas are advertising and applications: in the words of CEO Eric Schmidt, Google is all about "search, ads, and apps." It has extended search to include images, books, scholars, content, finance, and news. It has extended its advertising services through its AdWords and AdSense programs. AdWords is an auction program that allows advertisers to bid for placement on Google pages. AdSense allows Google to place ads on publisher Web sites (basically any Web site is a "publisher" Web site) based on the content of that site's Web pages. Other services include Google Geo (maps, Earth, and local content), and Google Checkout (an online wallet).

Google is also starting to push into Microsoft's territory in the applications market. Google's applications include Gmail, Docs and Spreadsheets, Calendar, Groups, Orkut (a social networking environment), and Blogger. In case you've missed the last two decades, most of these are "Office" applications where Microsoft currently has a near monopoly. Where to put Google's \$1.65 billion purchase of YouTube? Wall Street analysts have had a tough time with this

question too. YouTube is all three: it's an online application for storing and sharing videos; it's a search system for videos; and it's an advertiser's dream come true: according to comScore, nearly 80 million users watched more than 3 billion user posted videos in January 2008.

While Google's software applications may be popular, they have not yet turned into big money makers, and Microsoft still "owns" 95% of the world's PC office environment. Almost all (99%) of Google's revenue still comes from search and advertising (including AdWords and AdSense). And while Microsoft has invested billions developing its own search engine, so far it has gained only at the expense of AOL and Ask.com, and seems stuck at about 13%-14% of the market (an improvement over previous years when it was below 10%). Google has increased its share of search a bit to 53% from 51%.

In a "life imitates art" moment, both companies purchased advertising networks to help target banner ads within a month of one another. Google bought DoubleClick for \$3.1 billion in April 2007, and Microsoft protested the purchase to the Department of Justice as "anti-competitive." A month later, Microsoft bought aQuantive for \$6 billion, the largest purchase in Microsoft history. Earlier in 2006, it bought in-game advertising pioneer Massive Inc. There's just no shame among monopolists and oligopolists!

The future portends an expensive battle among the world's largest Internet technology titans for control of search, advertising, and applications on your PC. Stay tuned.

SOURCES: "Nielsen Online Announces May U.S. Search Share Rankings," Nielsen Online, June 19, 2008; eMarketer, Inc., "US Online Advertising: Resilient in a Rough Economy," by David Hallerman, March 2008; Google Inc. Form 10-K for the year ended December 31, 2007 filed with the Securities and Exchange Commission, February 15, 2008; "YouTube Looks for the Money Clip," by Yi-Wyn Yen, Fortune, March 25, 2008; "Google Keeps Tweaking Its Search Engine," by Saul Hansell, New York Times, June 3,2007; "Out of Chaos, Order. Or So Google Says," by Miguel Helft, New York Times, May 11, 2007; "Is Google Too Powerful," by Rob Hof, BusinessWeek, April 9, 2007; "Google Looks To Boost Ads with YouTube," by Kevin Delaney, New York Times, October 10, 2006.

ence. The e-tailer's challenge is differentiating its business from existing stores and Web sites.

Companies that try to reach every online consumer are likely to deplete their resources quickly. Those that develop a niche strategy, clearly identifying their target market and its needs, are best prepared to make a profit. Keeping expenses low, selection broad, and inventory controlled are keys to success in e-tailing, with inventory being the most difficult to gauge. Online retail is covered in more depth in Chapter 9.

#### **CONTENT PROVIDER**

Although there are many different ways the Internet can be useful, "information content," which can be defined broadly to include all forms of intellectual property, is one of the largest types of Internet usage. **Intellectual property** refers to all forms of human expression that can be put into a tangible medium such as text, CDs, or the Web (Fisher, 1999). **Content providers** distribute information content, such as digital video, music, photos, text, and artwork, over the Web. According to the Online Publishers Association, in 2005, U.S. consumers spent \$2 billion for online content (Online Publishers Association, 2006). Since then, digital music, movies, and television have become an increasingly important part of the market, and are expected to generate over \$3.6 billion in revenues alone during 2008 (eMarketer, Inc. 2007b; 2007c; author estimates).

Content providers make money by charging a subscription fee. For instance, in the case of Real.com's Rhapsody Unlimited service, a monthly subscription fee provides users with access to thousands of song tracks. Other content providers, such as WSJ.com (*The Wall Street Journal's* online newspaper), *Harvard Business Review*, and many others, charge customers for content downloads in addition to or in place of a subscription fee. Micropayment systems technology provides content providers with a cost-effective method for processing high volumes of very small monetary transactions (anywhere from \$.25 to \$5.00 per transaction). Micropayment systems have greatly enhanced the revenue model prospects of content providers who wish to charge by the download.

Of course, not all online content providers charge for their information: just look at Sportsline.com, CIO.com, CNN.com, and the online versions of many newspapers and magazines. Users can access news and information at these sites without paying a cent. These popular sites make money in other ways, such as through advertising and partner promotions on the site. Increasingly, however, "free content" is limited to headlines and text, whereas premium content—in-depth articles or video delivery—is sold for a fee.

Generally, the key to becoming a successful content provider is owning the content. Traditional owners of copyrighted content—publishers of books and newspapers, broadcasters of radio and television content, music publishers, and movie studios—have powerful advantages over newcomers to the Web who simply offer distribution channels and must pay for content, often at oligopolistic prices.

Some content providers, however, do not own content, but syndicate (aggregate) and then distribute content produced by others. *Syndication* is a major variation of the

#### intellectual property

refers to all forms of human expression that can be put into a tangible medium such as text, CDs, or the Web

#### content provider

distributes information content, such as digital news, music, photos, video, and artwork, over the Web standard content provider model. Another variation here is Web aggregators, who collect information from a wide variety of sources and then add value to that information through post-aggregation services. For instance, Shopping.com collects information on the prices of thousands of goods online, analyzes the information, and presents users with tables showing the range of prices and Web locations. Shopping.com adds value to content it aggregates, and re-sells this value to advertisers who advertise on its site (Madnick and Siegel, 2001).

Any e-commerce startup that intends to make money by providing content is likely to face difficulties unless it has a unique information source that others cannot access. For the most part, this business category is dominated by traditional content providers.

Online content is discussed in further depth in Chapter 10.

#### TRANSACTION BROKER

Sites that process transactions for consumers normally handled in person, by phone, or by mail are **transaction brokers**. The largest industries using this model are financial services, travel services, and job placement services. The online transaction broker's primary value propositions are savings of money and time. In addition, most transaction brokers provide timely information and opinions. Sites such as Monster.com offer job searchers a national marketplace for their talents and employers a national resource for that talent. Both employers and job seekers are attracted by the convenience and currency of information. Online stock brokers charge commissions that are considerably less than traditional brokers, with many offering substantial deals, such as cash and a certain number of free trades, to lure new customers (Bakos, Lucas, et al., 2000).

Given rising consumer interest in financial planning and the stock market, the market opportunity for online transaction brokers appears to be large. However, while millions of customers have shifted to online brokers, many have been wary about switching from their traditional broker who provides personal advice and a brand name. Fears of privacy invasion and the loss of control over personal financial information also contribute to market resistance. Consequently, the challenge for online brokers is to overcome consumer fears by emphasizing the security and privacy measures in place, and, like physical banks and brokerage firms, providing a broad range of financial services and not just stock trading. This industry is covered in greater depth in Chapter 9.

Transaction brokers make money each time a transaction occurs. Each stock trade, for example, nets the company a fee, based either on a flat rate or a sliding scale related to the size of the transaction. Attracting new customers and encouraging them to trade frequently are the keys to generating more revenue for these companies. Job sites generate listing fees from employers up front, rather than charging a fee when a position is filled.

Competition among brokers has become more fierce in the past few years, due to new entrants offering ever more appealing offers to consumers to sign on. Those who prospered initially were the first movers such as E\*Trade, Ameritrade, Datek, and Schwab. During the early days of e-commerce, many of these firms engaged in

#### transaction broker

site that processes transactions for consumers that are normally handled in person, by phone, or by mail expensive marketing campaigns and were willing to pay up to \$400 to acquire a single customer. However, online brokerages are now in direct competition with traditional brokerage firms who have joined the online marketspace. Significant consolidation is occurring in this industry. The number of job sites has also multiplied, but the largest sites (those with the largest number of job listings) are pulling ahead of smaller niche companies. In both industries, only a few, very large firms are likely to survive in the long term.

#### MARKET CREATOR

Market creators build a digital environment in which buyers and sellers can meet, display products, search for products, and establish prices. Prior to the Internet and the Web, market creators relied on physical places to establish a market. Beginning with the medieval marketplace and extending to today's New York Stock Exchange, a market has meant a physical space for transacting. There were few private digital network marketplaces prior to the Web. The Web changed this by making it possible to separate markets from physical space. A prime example is Priceline, which allows consumers to set the price they are willing to pay for various travel accommodations and other products (sometimes referred to as a reverse auction) and eBay, the online auction site utilized by both businesses and consumers.

For example, eBay's auction business model is to create a digital electronic environment for buyers and sellers to meet, agree on a price, and transact. This is different from transaction brokers who actually carry out the transaction for their customers, acting as agents in larger markets. At eBay, the buyers and sellers are their own agents. Each sale on eBay nets the company a commission based on the percentage of the item's sales price, in addition to a listing fee. eBay is one of the few Web sites that has been profitable virtually from the beginning. Why? One answer is that eBay has no inventory or production costs. It is simply a middleman.

The market opportunity for market creators is potentially vast, but only if the firm has the financial resources and marketing plan to attract sufficient sellers and buyers to the marketplace. At the end of June 2008, eBay had about 84.5 million active users, and this makes for an efficient market (eBay, 2008). There are many sellers and buyers for each type of product, sometimes for the same product, for example, laptop computer models. New firms wishing to create a market require an aggressive branding and awareness program to attract a sufficient critical mass of customers. Some very large Web-based firms such as Amazon have leveraged their large customer base and started auctions. Many other digital auctions have sprung up in smaller, more specialized vertical market segments such as jewelry and automobiles.

In addition to marketing and branding, a company's management team and organization can make a difference in creating new markets, especially if some managers have had experience in similar businesses. Speed is often the key in such situations. The ability to become operational quickly can make the difference between success and failure.

#### market creator

builds a digital environment where buyers and sellers can meet, display products, search for products, and establish a price for products

#### **SERVICE PROVIDER**

**service provider** offers services online

While e-tailers sell products online, **service providers** offer services online. There's been an explosion in online services that is often unrecognized. Web 2.0 applications such as photo sharing, video sharing, and user-generated content (in blogs and social networking sites) are all services provided to customers. Google has led the way in developing online applications such as Google Maps, Google Docs and Spreadsheets, and Gmail. ThinkFree and Buzzword are online alternatives to Microsoft Word provided as services (rather than boxed software—a product). More personal services such as online medical bill management, financial and pension planning, and travel recommender sites are showing strong growth.

Service providers use a variety of revenue models. Some charge a fee, or monthly subscriptions, while others generate revenue from other sources, such as through advertising and by collecting personal information that is useful in direct marketing. Some services are free but are not complete. For instance, Google Apps' basic edition is free, but a "Premier" model with virtual conference rooms and advanced tools costs \$50 per employee a year. Much like retailers who trade products for cash, service providers trade knowledge, expertise, and capabilities, for revenue.

Obviously, some services cannot be provided online. For example, dentistry, medical services, plumbing, and car repair cannot be completed via the Internet. However, online arrangements can be made for these services. Online service providers may offer computer services, such as information storage, provide legal services, such as at Linklaters BlueFlag, or offer advice and services to high-net worth individuals, such as at MyCFO.com. Grocery shopping sites such as FreshDirect and Peapod are also providing services.¹ To complicate matters a bit, most financial transaction brokers (described previously) provide services such as college tuition and pension planning. Travel brokers also provide vacation-planning services, not just transactions with airlines and hotels. Indeed, mixing services with your products is a powerful business strategy pursued by many hard-goods companies (for example, warranties are services).

The basic value proposition of service providers is that they offer consumers valuable, convenient, time-saving, and low-cost alternatives to traditional service providers or—in the case of search engines and most Web 2.0 applications—they provide services that are truly unique to the Web. Where else can you search 50 billion Web pages, or share photos with as many other people instantly? Research has found, for instance, that a major factor in predicting online buying behavior is *time starvation*. Time-starved people tend to be busy professionals who work long hours and simply do not have the time to pick up packages, buy groceries, send photos, or visit with financial planners (Bellman, Lohse, and Johnson, 1999). The market opportunity for service providers is as large as the variety of services that can be provided and potentially is much larger than the market opportunity for physical goods. We live in a service-based economy and society; witness the growth of fast food restaurants, package delivery services, and wireless cellular phone services. Consumers'

<sup>1</sup>FreshDirect and other e-commerce businesses can also be classified as online retailers insofar as they warehouse commonly purchased items and make a profit based on the spread between their buy and sell prices.

increasing demand for convenience products and services bodes well for current and future online service providers.

Marketing of service providers must allay consumer fears about hiring a vendor online, as well as build confidence and familiarity among current and potential customers. Building confidence and trust is critical for service providers just as it is for retail product merchants. Kodak, for instance, has a powerful brand name over a century old, and has translated that brand into a trusted online provider of photo services. In the process, Kodak is transforming itself from a products-only company (cameras and paper) into a more contemporary digital services company.

#### **COMMUNITY PROVIDER**

Although community providers are not a new entity, the Internet has made such sites for like-minded individuals to meet and converse much easier, without the limitations of geography and time to hinder participation. **Community providers** are sites that create a digital online environment where people with similar interests can transact (buy and sell goods); share interests, photos, videos; communicate with like-minded people; receive interest-related information; and even play out fantasies by adopting online personalities called avatars. The social networking sites MySpace, Facebook, Friendster, and hundreds of other smaller, niche sites such as Doostang, Twitter, and Sportsvite, all offer users community building tools and services.

The basic value proposition of community providers is to create a fast, convenient, one-stop site where users can focus on their most important concerns and interests, share the experience with friends, and learn more about their own interests. Community providers typically rely on a hybrid revenue model that includes subscription fees, sales revenues, transaction fees, affiliate fees, and advertising fees from other firms that are attracted by a tightly focused audience.

Community sites such as iVillage make money through affiliate relationships with retailers and from advertising. For instance, a parent might visit Babystyle for tips on diapering a baby and be presented with a link to Huggies.com; if the parent clicks the link and then makes a purchase from Huggies.com, Babystyle gets a commission. Likewise, banner ads also generate revenue. At About.com, visitors can share tips and buy recommended books from Amazon, giving About.com a commission on every purchase. Some of the oldest communities on the Web are Well.com, which provides a forum for technology and Internet-related discussions, and The Motley Fool (Fool.com), which provides financial advice, news, and opinions. The Well offers various membership plans ranging from \$10 to \$15 a month. Motley Fool supports itself through ads and selling products that start out "free" but turn into annual subscriptions.

Consumers' interest in communities is mushrooming. Community is, arguably, the fastest growing online activity. While many community sites have had a difficult time becoming profitable, over time many have succeeded. Newer community sites such as Facebook and MySpace may not be profitable at this time, but they are quickly developing advertising revenues as their main avenue of revenue. Both the very large social networking sites (MySpace and Facebook each have over 100 million profiles) as

#### community provider

sites that create a digital online environment where people with similar interests can transact (buy and sell goods); share interests, photos, and videos; communicate with like-minded people; and receive interest-related information

well as niche sites with smaller dedicated audiences are ideal marketing and advertising territories. Traditional online communities such as the Well, iVillage, and WebMD (which provides medical information to members) find that breadth and depth of knowledge at a site is an important factor. Community members frequently request knowledge, guidance, and advice. Lack of experienced personnel can severely hamper the growth of a community, which needs facilitators and managers to keep discussions on course and relevant. For the newer community social networking sites, the most important ingredients of success appear to be ease and flexibility of use, and a strong customer value proposition. For instance, Facebook has rapidly gained on its rival MySpace by encouraging users to build their own revenue-producing applications that run on their profiles, and even take in advertising and affiliate revenues.

Online communities benefit significantly from offline word-of-mouth, viral marketing. Online communities tend to reflect offline relationships. When your friends say they have a profile on Facebook, and ask you to visit, you are encouraged to build your own online profile.

## 2.3 MAJOR BUSINESS-TO-BUSINESS (B2B) BUSINESS MODELS

In Chapter 1, we noted that business-to-business (B2B) e-commerce, in which businesses sell to other businesses, is more than ten times the size of B2C e-commerce, even though most of the public attention has focused on B2C. For instance, it is estimated that revenues for all types of B2C e-commerce (including spending on online leisure travel and digital content) in 2008 will total around \$258 billion (eMarketer, Inc., 2008b), compared to over \$3.8 trillion for all types of B2B e-commerce in 2008 (U.S. Census Bureau, 2008). Clearly, most of the dollar revenues in e-commerce involve B2B e-commerce. Much of this activity is unseen and unknown to the average consumer.

**Table 2.4** lists the major business models utilized in the B2B arena.

#### **E-DISTRIBUTOR**

Companies that supply products and services directly to individual businesses are **e-distributors**. W.W. Grainger, for example, is the largest distributor of maintenance, repair, and operations (MRO) supplies. MRO supplies are thought of as indirect inputs to the production process—as opposed to direct inputs. In the past, Grainger relied on catalog sales and physical distribution centers in metropolitan areas. Its catalog of equipment went online in 1995 at Grainger.com, giving businesses access to more than 300,000 items. Company purchasing agents can search by type of product, such as motors, HVAC, or fluids, or by specific brand name.

E-distributors are owned by one company seeking to serve many customers. However, as with exchanges (described on the next page), critical mass is a factor. With e-distributors, the more products and services a company makes available on its site, the more attractive that site is to potential customers. One-stop shopping is always preferable to having to visit numerous sites to locate a particular part or product.

#### e-distributor

a company that supplies products and services directly to individual businesses

TABLE 2.4 B2B BUSINESS MODELS			
BUSINESS MODEL	EXAMPLES	DESCRIPTION	REVENUE MODEL
(1) NET MARKETE	PLACE		
E-distributor	Grainger.com Partstore.com	Single-firm online version of retail and wholesale store; supply maintenance, repair, operation goods; indirect inputs	Sales of goods
E-procurement	Ariba Perfectcommerce	Single firm creating digital markets where sellers and buyers transact for indirect inputs	Fees for market-making services; supply chain management, and fulfillment services
Exchange	Farms.com Foodtrader	Independently owned vertical digital marketplace for direct inputs	Fees and commissions on transactions
Industry Consortium	Elemica Exostar Quadrem	Industry-owned vertical digital market open to select suppliers	Fees and commissions on transactions
(2) PRIVATE INDU	JSTRIAL NETWORK		
Single firm	Wal-Mart Proctor & Gamble	Company-owned network to coordinate supply chains with a limited set of partners	Cost absorbed by network owner and recovered through production and distribution efficiencies
Industry-wide	1 SYNC Agentrics	Industry-owned network to set standards, coordinate supply and logistics for the industry	Contributions from industry member firms and recovered through production and distribution efficiencies; fees for transactions and services.

#### **E-PROCUREMENT**

Just as e-distributors provide products to other companies, **e-procurement firms** create and sell access to digital electronic markets. Firms such as Ariba, for instance, have created software that helps large firms organize their procurement process by creating mini-digital markets for a single firm. Ariba creates custom integrated online catalogs (where supplier firms can list their offerings) for purchasing firms. On the sell side, Ariba helps vendors sell to large purchasers by providing software to handle catalog creation, shipping, insurance, and finance. Both the buy and sell side software is referred to generically as "value chain management" software.

**B2B service providers** make money through transaction fees, fees based on the number of workstations using the service, or annual licensing fees. They offer purchasing firms a sophisticated set of sourcing and supply chain management tools that permit firms to reduce supply chain costs. In the software world, firms such as Ariba are sometimes also called **application service providers (ASPs)**; they are able to offer

#### e-procurement firm

creates and sells access to digital electronic markets

#### B2B service provider

sells business services to other firms

## application service provider (ASP)

a company that sells access to Internet-based software applications to other companies

#### scale economies

efficiencies that arise from increasing the size of a business

#### exchange

an independent digital electronic marketplace where suppliers and commercial purchasers can conduct transactions firms much lower costs of software by achieving scale economies. **Scale economies** are efficiencies that result from increasing the size of a business, for instance, when large, fixed-cost production systems (such as factories or software systems) can be operated at full capacity with no idle time. In the case of software, the marginal cost of a digital copy of a software program is nearly zero, and finding additional buyers for an expensive software program is exceptionally profitable. This is much more efficient than having every firm build its own supply chain management system, and it permits firms such as Ariba to specialize and offer their software to firms at a cost far less than the cost of developing it.

#### **EXCHANGES**

Exchanges have garnered most of the B2B attention and early funding because of their potential market size even though today they are a small part of the overall B2B picture. An **exchange** is an independent digital electronic marketplace where hundreds of suppliers meet a smaller number of very large commercial purchasers (Kaplan and Sawhney, 2000). Exchanges are owned by independent, usually entrepreneurial startup firms whose business is making a market, and they generate revenue by charging a commission or fee based on the size of the transactions conducted among trading parties. They usually serve a single vertical industry such as steel, polymers or aluminum, and focus on the exchange of direct inputs to production and short-term contracts or spot purchasing. For buyers, B2B exchanges make it possible to gather information, check out suppliers, collect prices, and keep up to date on the latest happenings all in one place. Sellers, on the other hand, benefit from expanded access to buyers. The greater the number of sellers and buyers, the lower the sales cost and the higher the chances of making a sale. The ease, speed, and volume of transactions are summarily referred to as *market liquidity*.

In theory, exchanges make it significantly less expensive and time-consuming to identify potential suppliers, customers and partners, and to do business with each other. As a result, they can lower transaction costs—the cost of making a sale or purchase. Exchanges can also lower product costs and inventory-carrying costs—the cost of keeping a product on hand in a warehouse. In reality, as discussed in Chapter 12, B2B exchanges have had a difficult time convincing thousands of suppliers to move into singular digital markets where they face powerful price competition, and an equally difficult time convincing businesses to change their purchasing behavior away from trusted long-term trading partners. As a result, the number of exchanges has fallen to less than 200, down from over 1,500 in 2002, although the surviving firms have experienced some success (Ulfelder, 2004; Day, Fein, Ruppersberger, 2003). Read *Insight on Business: Onvia Evolves* for a look at how a former B2B high flyer has evolved its business model in order to survive.

#### **INDUSTRY CONSORTIA**

**industry consortia** industry-owned vertical marketplaces that serve specific industries **Industry consortia** are industry-owned *vertical marketplaces* that serve specific industries, such as the automobile, aerospace, chemical, floral, or logging industries. In contrast, *horizontal marketplaces* sell specific products and services to a wide range of companies. Vertical marketplaces supply a smaller number of companies with products and services of specific interest to their industry, while horizontal marketplaces supply companies in different industries with a particular type of

## **INSIGHT ON BUSINESS**

#### **ONVIA EVOLVES**

Few e-commerce start-ups reflect

the nimble behavior of entrepreneurial firms better than Onvia. Founded in 1996 by Vancouver entrepreneur Glenn Ballman, Onvia started out as a market hub or exchange aimed at helping the 15 million small businesses in America shop for the best deals on products and services. Starting out at home, Ballman created a Web site where small businesses could buy and sell products, access small business information, and purchase business software. Originally called Megadepot.com, in 1998 Ballman moved to Seattle in part to attract venture capital funding, and renamed the company Onvia.com (in Latin, "on the road"). After several rounds of venture capital investment that accumulated to more than \$71 million in 1999, Onvia went public in March 2000, at the offering price of \$21, raising an addition \$240 million.

By 2000, Onvia had over a million small

business users, and thousands of suppliers, and also had built strategic relationships with Visa and AOL to build cobranded Web sites for the small business market. But the company remained unprofitable because, like so many other exchanges, it could not attract enough suppliers willing to compete against one another in an open marketplace. This reduced the goods and services available in the marketplace and reduced trading volume. Because Onvia made money only when goods were exchanged, Onvia revenues never achieved a profitable level. By December 2000, Onvia had laid off over 200 employees, and its stock sank to \$1, the delisting price for stocks on NASDAQ.

Not one to give up easily, founder Ballman initiated a recovery plan. He sold off Onvia's online purchasing of software, hardware, and business products to a competitor, Firstsource Corporation, retaining only the Onvia procurement network that matches buyers and sellers. Then the company completely switched markets from the small business service market to the government procurement and service market. In this new marketspace, Onvia planned to provide procurement services to local, state, and federal government agencies and feed sales leads to small businesses wanting to serve that market.

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In March 2001, Onvia purchased DemandStar Inc., a leading provider of buyer-side business-togovernment platforms that had over 270 government agency subscribers. In June 2001, Onvia purchased ProjectGuides, the nation's largest online bid gathering and distribution service. This acquisition permitted the company to greatly increase the flow of bids from agencies into the marketplace. It also began compiling a proprietary database, called Onvia Dominion, that now contains 5 million procurement records, 275,000 vendor profiles, and coverage of more than 78,000 government purchasing offices nationwide. In 2005, the company introduced Onvia Business Builder, a business intelligence tool that allows companies to mine the Onvia Dominion database for information relevant to their business, and in 2006, added Onvia Navigator, an enhanced search tool for the database. In February 2008, Onvia launched yet another new product, Onvia Planning and Construction, which expands its solutions for the commercial and residential development market. Onvia makes money by charging clients a subscription fee for access to its products and services, by licensing its content to third parties who then resell the data, and by selling custom market information reports.

The changes in its business model have enabled Onvia to regain stability, although it is not yet profitable. During the period from 2002 to 2007, revenue almost tripled, from \$7 million to over \$20 million, and in 2007, Onvia recorded its first annual net profit.. As of June 2008, Onvia had approximately 8,100 clients with an annual contract value of approximately \$18.2 million. According to Mike Pickett, Onvia's Chairman and Chief Executive Office, Onvia is very pleased with its progress. In 2008. Onvia jumped from 120th to 26th in the Seattle Times 2008 rankings of Northwest businesses. It appears that Onvia has finally discovered a viable business model. Onvia's stock currently sells in the \$4-\$6 range.

**SOURCES**: "About Onvia," Onvia.com, July 7, 2008; Onvia.com Inc. Form 10-Q for the quarter ended June 30, 2008, filed with the Securities and Exchange Commission on August 13, 2008; "Onvia's Quarterly Revenue Grows 10% Over Q1 2007," Onvia, Inc., April 29, 2008; Onvia.com Inc. Form 10-K for the fiscal year ended December 31, 2007, filed with the Securities and Exchange Commission on March 31, 2008.

product and service, such as marketing-related, financial, or computing services For example, Exostar is an online trading exchange for the aerospace and defense industry, founded by BAE Systems, Boeing, Lockheed Martin, Raytheon, and Rolls-Royce in 2000. Exostar connects with over 300 procurement systems in 20 different countries and has registered more than 40,000 trading partners worldwide.

Industry consortia have tended to be more successful than independent exchanges in part because they are sponsored by powerful, deep-pocketed industry players, and also because they strengthen traditional purchasing behavior rather than seek to transform it.

#### PRIVATE INDUSTRIAL NETWORKS

Private industrial networks (sometimes referred to as private trading exchanges or PTXs) constitute about 75% of all B2B expenditures by large firms and far exceed the expenditures for all forms of Net marketplaces. Private industrial networks are digital networks (often but not always Internet-based networks) designed to coordinate the flow of communications among firms engaged in business together. For instance, Wal-Mart operates one of the largest private industrial networks in the world for its suppliers, who on a daily basis use Wal-Mart's network to monitor the sales of their goods, the status of shipments, and the actual inventory level of their goods. B2B e-commerce relies overwhelmingly on a technology called electronic data interchange (EDI) (U.S. Census Bureau, 2008). EDI is useful for one-to-one relationships between a single supplier and a single purchaser, and originally was designed for proprietary networks, although it is migrating rapidly to the Internet. Many firms have begun to supplement their EDI systems, however, with more powerful Web technologies that can enable many-to-one, and many-to-many market relationships where there are many suppliers selling to a single or small group of very large purchasers, or, in the case of independent exchanges, there may be many sellers and many buyers simultaneously in the marketplace. EDI is not designed for these types of relationships. There are two types of private industrial networks: single-firm networks and industry-wide networks.

Single-firm private industrial networks are the most common form of private industrial network. These single-firm networks are owned by a single large purchasing firm, such as Wal-Mart or Procter & Gamble. Participation is by invitation only to trusted long-term suppliers of direct inputs. Single-firm networks typically evolve out of a firm's own enterprise resource planning system (ERP), and they are an effort to include key suppliers in the firm's own business decision making (eMarketer, Inc., 2004).

Industry-wide private industrial networks often evolve out of industry associations. These networks are usually owned by a consortium of the large firms in an industry and have the following goals: providing a neutral set of standards for commercial communication over the Internet; having shared and open technology platforms for solving industry problems; and in some cases, providing operating networks that allow members of an entire industry to closely collaborate. To some extent, these industry-wide networks are a response to the success of single-firm private industrial networks. For instance, Wal-Mart has refused to open its very successful network to other members of the retail industry, in effect to become an industry standard, for fear it will be sharing technology secrets with other retailers like Sears.

In response, Sears and other retailers around the world have created their own set of organizations and networks that are open to all in the industry. For instance, Agentrics is an industry-wide private industrial network for retailers and suppliers designed to facilitate and simplify trading among retailers, suppliers, partners, and distributors. Agentrics' members currently include more than half of the world's top 25 retailers and over 200 suppliers from Africa, Asia, Europe, North America, and South America, with combined sales of approximately \$1.2 trillion. Agentrics provides collaborative design tools; planning and management; negotiations and auctions; order execution; demand

#### private industrial networks

digital network designed to coordinate the flow of communications among firms engaged in business together aggregation; worldwide item management; worldwide logistics; and a global catalog in English, French, German, and Spanish containing trading relationship data for member-sponsored suppliers totaling more than 30,000 items (Agentrics LLC, 2008). From this list of services and capabilities, it is clear that industry-wide private industrial networks offer much more functionality than industry consortia, although the two models appear to be moving closer together (Gebauer and Zagler, 2000). We discuss these developments and other nuances of B2B commerce in Chapter 12.

#### **2.4** BUSINESS MODELS IN EMERGING E-COMMERCE AREAS

When we think about a business, we typically think of a business firm that produces a product or good, and then sells it to a customer. But the Web has forced us to recognize new forms of business, such as consumer-to-consumer e-commerce, peer-to-peer e-commerce, and m-commerce. **Table 2.5** lists some of the business models that can be found in these emerging markets.

#### **CONSUMER-TO-CONSUMER (C2C) BUSINESS MODELS**

Consumer-to-consumer (C2C) ventures provide a way for consumers to sell to each other, with the help of an online business. The first and best example of this type of business is eBay, utilizing a market creator business model.

Before eBay, individual consumers used garage sales, flea markets, and thrift shops to both dispose of and acquire used merchandise. With the introduction of online auctions, consumers no longer had to venture out of their homes or offices in order to bid on items of interest, and sellers could relinquish expensive retail space that was no longer needed in order to reach buyers. In return for linking like-minded buyers and sellers, eBay takes a small commission. The more auctions, the more

TABLE 2.5	BUSINESS MODELS IN EMERGING E-COMMERCE AREAS		
BUSINESS	EXAMPLES	DESCRIPTION	REVENUE MODEL
Consumer-to- consumer	eBay Half.com	Helps consumers connect with other consumers to conduct business	Transaction fees
Peer-to-peer	Kazaa Cloudmark	Technology enabling consumers to share files and services via the Web, without a common server	Subscription fees, advertising, transaction fees
M-commerce	eBay Mobile PayPal Mobile Checkout AOL Moviefone	Extending business applications using wireless technology	Sales of goods and services

money eBay makes. In fact, it is one of the few Web companies that has been profitable from day one—and has stayed so for several years.

Consumers who don't like auctions but still want to find used merchandise can visit Half.com (also owned by eBay), which enables consumers to sell unwanted books, movies, music, and games to other consumers at a fixed price. In return for facilitating the transaction, Half.com takes a commission on the sale, ranging from 5%–15%, depending on the sale price, plus a fraction of the shipping fee it charges.

#### PEER-TO-PEER (P2P) BUSINESS MODELS

Like the C2C models, P2P business models link users, enabling them to share files and computer resources without a common server. The focus in P2P companies is on helping individuals make information available for anyone's use by connecting users on the Web. Historically, peer-to-peer software technology has been used to allow the sharing of copyrighted music files in violation of digital copyright law. The challenge for P2P ventures is to develop viable, legal business models that will enable them to make money. In Chapter 1, we discussed the difficulties faced by Kazaa, one of the most prominent examples of a P2P business model in action. To date, there are few if any examples of successful P2P e-commerce business models outside of the music and content file-swapping sites. However, one company that has successfully used this model outside those two arenas is Cloudmark, which offers a P2P anti-spam solution called Cloudmark Desktop. Cloudmark currently protects over 180 million e-mailboxes in 163 countries.

#### M-COMMERCE BUSINESS MODELS

M-commerce, short for *mobile-commerce*, takes traditional e-commerce models and leverages emerging new wireless technologies—described more fully in Chapter 3—to permit mobile access to the Web. Wireless Web technology will be used to enable the extension of existing Web business models to service the mobile work force and consumer of the future. Wireless networks utilize newly available bandwidth and communication protocols to connect mobile users to the Internet. These technologies have already taken off in Asia and Europe, and will expand greatly in the United States in a few years. The major advantage of m-commerce is that it provides Internet access to anyone, anytime, and anywhere, using wireless devices. The key technologies here are cell phone-based 3G (third-generation wireless), Wi-Fi (wireless local area networks), and Bluetooth (short-range radio frequency Web devices).

There are many more cell phone subscribers (an estimated 3 billion worldwide in 2008) than there are Internet users (TIA, 2008). Cell phone usage is still considerably higher in Asia and Europe than it is in the United States. However, in the United States, the introduction of the iPhone in June 2007 and the 3G version in July 2008 has brought about a resurgence of interest in 3G technologies and their potential role in e-commerce. The standards implementing Wi-Fi were first introduced in 1997, and since then it has exploded in the United States and elsewhere. Analysts estimate that there are around 225,000 wireless hot spots (locations that enable a Wi-Fi-enabled device to connect to a nearby wireless LAN and access the Internet) worldwide in 2008 (JiWire.com, 2008). Likewise, the number of Bluetooth-enabled cell phones is also expanding exponentially. For instance, 70% of all the cell phones sold the fourth

quarter of 2007 in the United States supported Bluetooth. Two new wireless technologies that may have an impact are Ultrawideband (wireless USB technology), which will be able to transfer large files such as movies over short distances, and Zigbee, which, like Bluetooth, will connect devices to each other but at a longer range and with lower power requirements.

Despite all of the technological advancements in the last several years, mobile commerce in the United States has been a disappointment to date. According to a 2007 report, only 2% of the retail brands in the top 1,000 U.S. brands in 2007 operated a mobile Web site, and in many instances, they were used purely as a marketing and branding vehicle (Siwicki, 2007). However, with the introduction of the iPhone and other phones with similar capabilities, this has begun to change (**Figure 2.3**) and a September 2008 Internet Retailer survey found that almost 7% of Web retailers now have an m-commerce site (Brohan, 2008). The server-side hardware and software platform is in place, and the basic bandwidth is ready. As with all areas of e-commerce, the challenge for businesses will be finding ways to use m-commerce to make money while serving customer needs. Currently, demand is highest for digital content such as customized ringtones, games, and wallpaper. With the introduction of the iPhone, mobile search applications are likely to become more popular. Consumer applications are also beginning to appear in high-volume personal transaction areas,

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such as AOL's Moviefone reservation system, eBay's Mobile system, and mobile payment platforms such as PayPal's Mobile Checkout.

M-commerce business models that hope to rely on push advertising, as described in *Insight on Society: Is Privacy Possible in a Wireless World?* also may face an uphill battle.

#### E-COMMERCE ENABLERS: THE GOLD RUSH MODEL

Of the nearly 500,000 miners who descended on California in the Gold Rush of 1849, less than 1% ever achieved significant wealth. However, the banking firms, shipping companies, hardware companies, real estate speculators, and clothing companies such as Levi Strauss built long-lasting fortunes. Likewise in e-commerce. No discussion of e-commerce business models would be complete without mention of a group of companies whose business model is focused on providing the infrastructure necessary for e-commerce companies to exist, grow, and prosper. These are the e-commerce enablers: the Internet infrastructure companies. They provide the hardware, operating system software, networks and communications technology, applications software, Web designs, consulting services, and other tools that make e-commerce over the Web possible (see **Table 2.6**). While these firms may not be conducting e-commerce per se (although in many instances, e-commerce in its traditional sense is in fact one of their sales channels), they as a group have perhaps profited the most from the development of e-commerce. We will discuss many of these players in the following chapters.

TABLE 2.6 E-COMMERCE EN	E-COMMERCE ENABLERS	
INFRASTRUCTURE	PLAYERS	
Hardware: Web Servers	IBM, HP, Dell, Sun	
Software: Operating Systems and Server Software	Microsoft, RedHat Linux, Sun, Apache Software Foundation	
Networking: Routers	Cisco, JDS Uniphase, Lucent	
Security: Encryption Software	VeriSign, Check Point, Entrust, RSA	
E-commerce Software Systems (B2C, B2B)	IBM, Microsoft, Ariba, BroadVision, BEA Systems	
Streaming and Rich Media Solutions	Real Networks, Microsoft, Apple, Audible	
Customer Relationship Management Software	Oracle, SAP, E.piphany	
Payment Systems	VeriSign, PayPal, Cybersource	
Performance Enhancement	Akamai, Kontiki	
Databases	Oracle, Microsoft, Sybase, IBM	
Hosting Services	Interland, IBM, WebIntellects, Quest	

## **INSIGHT ON SOCIETY**

## IS PRIVACY POSSIBLE IN A WIRELESS WORLD?

You're walking past the local Pizza
Hut and your cell phone rings. Who's
calling? No, it's not your significant
other or a parent or friend. It's Pizza
Hut. They just wanted to let you know that
re on sale—two for one until 6 PM today

pizzas are on sale—two for one, until 6 P.M. today. Want to find out someone's address when you know the home phone number and then get a map to that location? Go to Google and enter that person's phone number. The top listing will provide you the name and address of the owner of that phone number. Click a button and you will get a map to the house or business. Google calls it PhoneBook, but it never asked you to join. You could opt out if you search hard enough. Or let's say you want to set up a wireless network in your house using Wi-Fi (short for an 802.11b radio network). Your neighbor will possibly be able to pick up your signals (and network traffic) if they are within 300 feet of your base station and "join" your network.

These scenarios are not far-fetched, but instead represent capabilities of existing technology. Some of these capabilities have benign or even humanitarian intentions. For instance, since October 2001, all cell phone providers are required to implement "E911" (Emergency 911), in which your cell phone's embedded GPS chips (global positioning system chips) can be tracked by emergency responders or law enforcement even if the phone is not turned on, and to automatically track the location of phones that are turned on. In true emergencies, these capabilities are helpful. If you are in an emergency and use your cell phone to call for help, authorities can find your location nearly instantly.

But while the primary goal of these wireless tracking capabilities is enhanced public safety, companies are already developing business models centered on applications that will allow them to exploit the technology. Called "location-based

services," companies such as MapQuest work with local businesses to provide directions to restaurants, theaters, and other attractions over cell phones. And with around 255 million cell phone users in the United States today, there are significant business opportunities for telephone carriers, mapping services, and local businesses. In 2006, mobile advertising revenues totaled over \$300 million and are expected to grow to over \$2 billion by 2011.

Proposals for the creation of a "wireless 411" cell phone directory creates cause for even greater concern. For instance, in October 2006, Trans-Union, one of the major credit bureau companies, acquired Qsent, which is developing a new wireless 411 service. According to Trans-Union, Qsent's technology is ready to go whenever cell phone providers decide to enable it. The service would requires subscribers to opt-in in order for their number to be included in the directory. However, such protection does not apply to a new cell phone directory being compiled by Intelius, which is also in the business of selling background checks online for a fee. Intelius's directory, available for \$15 per search, is based on data from marketing companies and public records.

The specter of more unsolicited, unwanted phone calls coupled with "Big Brother"-like location tracking has privacy advocates raising the alarm. "Developing wireless technology shows many indications of repeating two privacy disasters of the wired Internet—spam and nonconsensual tracking," said one privacy expert.

The wireless industry, mindful of the privacy issues raised in the online e-commerce context, has issued calls for stringent self-regulation in an attempt to avoid government-imposed regulation. For instance, the Mobile Marketing Association (MMA) has a Code of Conduct for wireless marketing campaigns, developed by an MMA board-appointed Privacy Advisory Committee

(continued)

And what about government regulation? The 2003 CAN-SPAM Act requires the Federal Communications Commission to issue rules to protect wireless subscribers from unwanted mobile service commercial messages, and provides that consumers can list their cell phone numbers in the National Do Not Call Registry. In August 2004, in accordance with the CAN-SPAM Act, the FCC proposed regulations, most of which went into effect in October

2004. The FCC prohibits sending wireless commercial e-mail messages unless the individual addressee has given the sender express prior authorization. The FCC also created a publicly available FCC wireless domain names list with the domain names used for mobile service messaging so that senders of commercial mail could more easily determine which addresses are directed at mobile services.

To date, wireless location-based services remain largely unregulated. The Wireless Communications and Public Safety Act (often called the "911 Act") added the term "location" to the definition of customer proprietary network information (CPNI) held by telecommunication carriers, to make it eligible for certain privacy protections offered by the Communications Act of 1934. The 911 Act also required that the FCC establish rules regarding how telecommunications carriers treat CPNI. The FCC did so in July 2002, adopting an approach that requires an individual's affirmative consent (opt-in) for some circumstances and assuming consent is granted unless an individual indicates otherwise (opt-out) in others. The Wireless Location Industry Association has also developed draft wireless policy standards for its members that combines an opt-in and out-out approach. Congress continues to debate how to protect wireless subscribers further, but thus far none have passed since CAN-SPAM in 2003. Will consumers be so enthralled with the idea of services tailored to their specific location that they won't mind being tracked? Privacy watchdogs don't think so and predict that any company whose business model is predicated on that assumption is underestimating the increasing sensitivity of the American public to privacy concerns.

SOURCES: "Cellphone Directory Grabs Your Number," by Tricia Duryee, Seattle Times, August 13, 2007; "US Mobile Advertising and Search Markets," Frost & Sullivan, July 24, 2007; "World Telecommunication Indicators Database," International Telecommunication Union, June 2007; "Wireless Location Tracking Draws Privacy Questions," Anne Broache, C/Net News.com, May 17, 2006; "Wireless Privacy and Spam: Issues for Congress," by Marcia S. Smith, CRS Report for Congress, December 22, 2004; "FCC Seeks Comment on Rules to Eliminate Spam from Mobile Phones," Federal Communications Commission Press Release, FCC.gov, March 11, 2004; "TRUSTe Announces First Wireless Privacy Standards to Protect Mobile Users," TRUSTe Press Release, Truste.org,; "Mobile Marketing Association Releases Code of Conduct for Wireless Campaigns," Mobile Marketing Association Press Release, Mmaglobal.com, December 2, 2003.

# 2.5 HOW THE INTERNET AND THE WEB CHANGE BUSINESS: STRATEGY, STRUCTURE, AND PROCESS

Now that you have a clear grasp of the variety of business models used by e-commerce firms, you also need to understand how the Internet and the Web have changed the business environment in the last decade, including industry structures, business strategies, and industry and firm operations (business processes and value chains). We will return to these concepts throughout the book as we explore the e-commerce phenomenon. In general, the Internet is an open standards system available to all players, and this fact inherently makes it easy for new competitors to enter the marketplace and offer substitute products or channels of delivery. The Internet tends to intensify competition. Because information becomes available to everyone, the Internet inherently shifts power to buyers who can quickly discover the lowest-cost provider on the Web. On the other hand, the Internet presents many new opportunities for creating value, for branding products and charging premium prices, and for enlarging an already powerful offline physical business such as Wal-Mart or Sears.

Recall Table 1.1 in Chapter 1 that describes the truly unique features of e-commerce technology. **Table 2.7** suggests some of the implications of each unique feature for the overall business environment—industry structure, business strategies, and operations.

#### **INDUSTRY STRUCTURE**

E-commerce changes industry structure, in some industries more than others. **Industry structure** refers to the nature of the players in an industry and their relative bargaining power. An industry's structure is characterized by five forces: *rivalry among existing competitors*, the *threat of substitute products, barriers to entry into the industry*, the *bargaining power of suppliers*, and the *bargaining power of buyers* (Porter, 1985). When you describe an industry's structure, you are describing the general business environment in an industry and the overall profitability of doing business in that environment. E-commerce has the potential to change the relative strength of these competitive forces (see **Figure 2.4** on page 100).

When you consider a business model and its potential long-term profitability, you should always perform an industry structural analysis. An **industry structural analysis** is an effort to understand and describe the nature of competition in an industry, the nature of substitute products, the barriers to entry, and the relative strength of consumers and suppliers.

E-commerce can affect the structure and dynamics of industries in very different ways. Consider the recorded music industry, an industry that has experienced significant change because of the Internet and e-commerce. Historically, the major record label firms owned the exclusive rights to the recorded music of various artists. With the entrance into the marketplace of substitute providers such as Kazaa, millions of consumers began to use the Internet to bypass traditional music labels and their distributors entirely. In the travel industry, entirely new

#### industry structue

refers to the nature of the players in an industry and their relative bargaining power

## industry structural analysis

an effort to understand and describe the nature of competition in an industry, the nature of substitute products, the barriers to entry, and the relative strength of consumers and suppliers

TABLE 2.7	EIGHT UNIQUE FEATURES OF E-COMMERCE TECHNOLOGY
FEATURE	SELECTED IMPACTS ON BUSINESS ENVIRONMENT
Ubiquity	Alters industry structure by creating new marketing channels and expanding size of overall market. Creates new efficiencies in industry operations and lowers costs of firms' sales operations. Enables new differentiation strategies.
Global reach	Changes industry structure by lowering barriers to entry, but greatly expands market at same time. Lowers cost of industry and firm operations through production and sales efficiencies. Enables competition on global scope.
Universal standards	Changes industry structure by lowering barriers to entry and intensifying competition within an industry. Lowers costs of industry and firm operations by lowering computing and communications costs. Enables broad scope strategies.
Richness	Alters industry structure by reducing strength of powerful distribution channels. Changes industry and firm operations cost by reducing reliance on sales forces. Enhances post-sales support strategies.
Interactivity	Alters industry structure by reducing threat of substitutes through enhanced customization. Reduces industry and firm costs by reducing reliance on sales forces. Enables Web-based differentiation strategies.
Personalization/ customization	Alters industry structure by reducing threats of substitutes, raising barriers to entry. Reduces value chain costs in industry and firms by lessening reliance on sales forces. Enables personalized marketing strategies.
Information density	Changes industry structure by weakening powerful sales channels, shifting bargaining power to consumers. Reduces industry and firm operations costs by lowering costs of obtaining, processing, and distributing information about suppliers and consumers.
Social networking technologies	Changes industry structure by shifting programming and editorial decisions to consumers; creates substitute entertainment products; energizes a large group of new suppliers.

middlemen such as Travelocity have entered the market to compete with traditional travel agents. After Travelocity, Expedia, CheapTickets, and other travel services demonstrated the power of e-commerce marketing for airline tickets, the actual owners of the airline seats—the major airlines—banded together to form their own Internet outlet for tickets, Orbitz, for direct sales to consumers, potentially eliminating the middlemen entirely. Clearly, e-commerce and the Internet create new industry dynamics that can best be described as the give and take of the marketplace, the changing fortunes of competitors.

Yet in other industries, the Internet and e-commerce have strengthened existing players. In the chemical and automobile industries, e-commerce is being used effectively by manufacturers to strengthen their traditional distributors. In these industries, e-commerce technology has not fundamentally altered the competitive forces—bargaining power of suppliers, barriers to entry, bargaining power of buyers,

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threat of substitutes, or rivalry among competitors—within the industry. Hence, each industry is different and you need to examine each one carefully to understand the impacts of e-commerce on competition and strategy.

New forms of distribution created by new market entrants can completely change the competitive forces in an industry. For instance, if a software firm such as Microsoft discovers that consumers will gladly substitute a \$50 or even free encyclopedia on a CD-ROM (a digital information product) for a \$2,500 set of Britannica encyclopedias (a physical information product), then the competitive forces in the encyclopedia industry are radically changed. Even if the substitute is an inferior product, consumers are able to satisfy their anxieties about their children's education at a much lower cost (Gerace, 1999).

Inter-firm rivalry (competition) is one area of the business environment where e-commerce technologies have had an impact on most industries. In general, the Internet has increased price competition in nearly all markets. It has been relatively easy for existing firms to adopt e-commerce technology and attempt to use it to achieve competitive advantage vis-à-vis rivals. For instance, the Internet inherently changes the scope of competition from local and regional to national and global. Because consumers have access to global price information, the Internet produces pressures on firms to compete by lowering prices (and lowering profits). On the other hand, the Internet has made it possible for some firms to differentiate their product or services from others. Amazon has patented one-click purchasing for instance, while eBay has created a unique, easy-to-use interface and a differentiating brand name. REI, Inc.—a specialty mountain climbing-oriented sporting goods company—has been able to use its Web site to maintain its strong niche focus on outdoor gear. Therefore, although the Internet has increased emphasis on price competition, it has also enabled businesses to create new strategies for differentiation and branding so that they can retain higher prices.

It is impossible to determine if e-commerce technologies have had an overall positive or negative impact on firm profitability in general. Each industry is unique, so it is necessary to perform a separate analysis for each one. Clearly, in some industries, in particular, information product industries such as the music, newspaper, book, and software industries, as well as other information-intense industries such as financial services, e-commerce has shaken the foundations of the industry. In these industries, the power of consumers has grown relative to providers, prices have fallen, and overall profitability has been challenged. In other industries, especially manufacturing, the Internet has not greatly changed relationships with buyers, but has changed relationships with suppliers. Increasingly, manufacturing firms in entire industries have banded together to aggregate purchases, create industry digital exchanges or marketplaces, and outsource industrial processes in order to obtain better prices from suppliers. Throughout this book, we will document these changes in industry structure and market dynamics introduced by e-commerce and the Internet.

#### **INDUSTRY VALUE CHAINS**

While an industry structural analysis helps us understand the impact of e-commerce technology on the overall business environment in an industry, a more detailed industry value chain analysis can help identify more precisely just how e-commerce may change business operations at the industry level (Benjamin and Wigand, 1995). One of the basic tools for understanding the impact of information technology on industry and firm operations is the value chain. The concept is quite simple. A **value chain** is the set of activities performed in an industry or in a firm that transforms raw inputs into final products and services. Each of these activities adds economic value to the final product; hence, the term *value chain* as an interconnected set of value-adding activities. **Figure 2.5** illustrates the six generic players in an industry value chain: suppliers, manufacturers, transporters, distributors, retailers, and customers.

By reducing the cost of information, the Internet offers each of the key players in an industry value chain new opportunities to maximize their positions by

#### value chain

the set of activities performed in an industry or in a firm that transforms raw inputs into final products and services

Every industry can be characterized by a set of value-adding activities performed by a variety of actors. E-commerce potentially affects the capabilities of each player as well as the overall operational efficiency of the industry.

lowering costs and/or raising prices. For instance, manufacturers can reduce the costs they pay for goods by developing Web-based B2B exchanges with their suppliers. Manufacturers can develop direct relationships with their customers through their own Web sites, bypassing the costs of distributors and retailers. Distributors can develop highly efficient inventory management systems to reduce their costs, and retailers can develop highly efficient customer relationship management systems to strengthen their service to customers. Customers in turn can use the Web to search for the best quality, fastest delivery, and lowest prices, thereby lowering their transaction costs and reducing prices they pay for final goods. Finally, the operational efficiency of the entire industry can increase, lowering prices and adding value to consumers, and helping the industry to compete with alternative industries. Dell Inc., for instance, employs a number of these stratagems, most notably a sales model for personal computers that bypasses traditional retail distribution channels by selling directly to consumers over the Web. Dell also has developed a highly efficient supply chain management system to reduce its costs, and an equally efficient customer relationship management system to support customers and add to the value of its products.

#### FIRM VALUE CHAINS

The concept of value chain can be used to analyze a single firm's operational efficiency as well. The question here is: How does e-commerce technology potentially affect the value chains of firms within an industry? A **firm value chain** is the set of activities a firm engages in to create final products from raw inputs. Each step in the process of production adds value to the final product. In addition, firms develop support activities that coordinate the production process and

#### firm value chain

the set of activities a firm engages in to create final products from raw inputs

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contribute to overall operational efficiency. **Figure 2.6** illustrates the key steps and support activities in a firm's value chain.

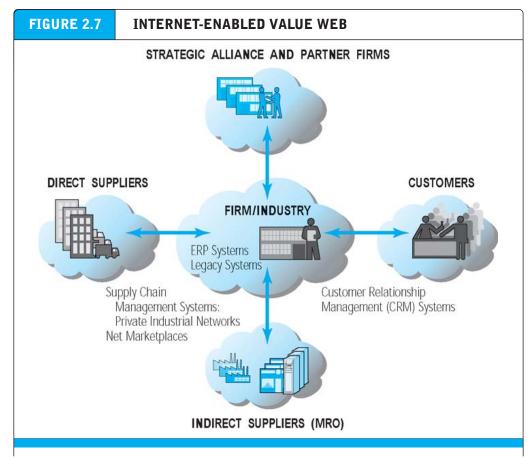
The Internet offers firms many opportunities to increase their operational efficiency and differentiate their products. For instance, firms can use the Internet's communications efficiency to outsource some primary and secondary activities to specialized, more efficient providers without such outsourcing being visible to the consumer. In addition, firms can use the Internet to more precisely coordinate the steps in the value chains and reduce their costs. Finally, firms can use the Internet to provide users with more differentiated and high-value products. For instance, Amazon uses the Internet to provide consumers with a much larger inventory of books to choose from, at a lower cost, than traditional book stores. It also provides many services—such as instantly available professional and consumer reviews, and information on buying patterns of other consumers—that traditional bookstores cannot.

#### FIRM VALUE WEBS

While firms produce value through their value chains, they also rely on the value chains of their partners—their suppliers, distributors, and delivery firms. The Internet creates new opportunities for firms to cooperate and create a value web. A **value web** is a networked business ecosystem that uses Internet technology to coordinate the value chains of business partners within an industry, or at the first level, to coordinate the value chains of a group of firms. **Figure 2.7** illustrates a value web.

#### value web

networked trans-business system that coordinates the value chains of several firms



Internet technology enables firms to create an enhanced value web in cooperation with their strategic alliance and partner firms, customers, and direct and indirect suppliers.

A value web coordinates a firm's suppliers with its own production needs using an Internet-based supply chain management system. We discuss these B2B systems in Chapter 12. Firms also use the Internet to develop close relationships with their logistics partners. For instance, Amazon relies on UPS tracking systems to provide its customers with online package tracking, and it relies on the U.S. Postal Service systems to insert packages directly into the mail stream. Amazon has partnership relations with hundreds of firms to generate customers and to manage relationships with customers. (Online customer relationship management systems are discussed in Chapter 6.) In fact, when you examine Amazon closely, you realize that the value it delivers to customers is in large part the result of coordination with other firms and not simply the result of activities internal to Amazon. The value of Amazon is, in large part, the value delivered by its value web partners. This is difficult for other firms to imitate in the short run.

#### business strategy

a set of plans for achieving superior long-term returns on the capital invested in a business firm

#### profit

the difference between the price a firm is able to charge for its products and the cost of producing and distributing goods

#### **BUSINESS STRATEGY**

A **business strategy** is a set of plans for achieving superior long-term returns on the capital invested in a business firm. A business strategy is therefore a plan for making profits in a competitive environment over the long term. **Profit** is simply the difference between the price a firm is able to charge for its products and the cost of producing and distributing goods. Profit represents economic value. Economic value is created anytime customers are willing to pay more for a product than it costs to produce. Why would anyone pay more for a product than it costs to produce? There are multiple answers. The product may be unique (there are no other suppliers), it may be the least costly product of its type available, consumers may be able to purchase the product anywhere in the world, or it may satisfy some unique needs that other products do not. Each of these sources of economic value defines a firm's strategy for positioning its products in the marketplace. There are four generic strategies for achieving a profitable business: differentiation, cost, scope, and focus. We describe each of these below. The specific strategies that a firm follows will depend on the product, the industry, and the marketplace where competition is encountered.

Although the Internet is a unique marketplace, the same principles of strategy and business apply. As we will see throughout the book, successful e-commerce strategies involve using the Internet to leverage and strengthen existing business (rather than destroy your business), and to use the Internet to provide products and services your competitors cannot copy (in the short term anyway) and that means developing unique products, proprietary content, distinguishing processes (like Amazon's one-click shopping), and personalized or customized services and products (Porter, 2001). Let's examine these ideas more closely.

**Differentiation** refers to all the ways producers can make their products unique and distinguish them from those of competitors. The opposite of differentiation is **commoditization**—a situation where there are no differences among products or services, and the only basis of choosing a product is price. As economists tell us, when price alone becomes the basis of competition and there are many suppliers and many customers, eventually the price of the good falls to the cost to produce it (marginal revenues from the nth unit equal marginal costs). And then profits are zero! This is an unacceptable situation for any business person. The solution is to differentiate your product and to create a monopoly-like situation where you are the only supplier.

There are many ways businesses differentiate their products. A business may start with a core generic product, but then create expectations among users about the "experience" of consuming the product—"Nothing refreshes like a Coke!" or "Nothing equals the experience of driving a BMW." Businesses may also augment products by adding features to make them different from those of competitors. And businesses can differentiate their products further by enhancing the products' abilities to solve related consumer problems. For instance, tax programs such as TurboTax can import data from spreadsheet programs, as well as be used to electronically file tax returns. These capabilities are enhancements to the product that solve a customer's problems. The purpose of marketing is to create these differentiation features and to make the consumer aware of the unique qualities of products, creating in the process a "brand" that stands for these features. We discuss marketing and branding in Chapter 6.

#### differentiation

refers to all the ways producers can make their products unique and different to distinguish them from those of competitors

#### commoditization

a situation where there are no differences among products or services, and the only basis of choosing products is price In their totality, the differentiation features of a product constitute the customer value proposition we described in earlier sections of this chapter. The Internet and the Web offer some unique ways to differentiate products. The ability of the Web to personalize the shopping experience and to customize the product or service to the particular demands of each consumer are perhaps the most significant ways in which the Web can be used to differentiate products. E-commerce businesses can also differentiate products by leveraging the ubiquitous nature of the Web (by making it possible to purchase the product from home, work, or on the road); the global reach of the Web (by making it possible to purchase the product anywhere in the world); richness and interactivity (by creating Web-based experiences for people who use the product, such as unique interactive content, videos, stories about users, and reviews by users); and information density (by storing and processing information for consumers of the product, such as warranty information on all products purchased through a site or income tax information online).

Adopting a *strategy of cost competition* means a business has discovered some unique set of business processes or resources that other firms cannot obtain in the marketplace. Business processes are the atomic units of the value chain. For instance, the set of value-creating activities called Inbound Logistics in Figure 2.6 is in reality composed of many different collections of activities performed by people on the loading docks and in the warehouses. These different collections of activities are called business processes—the set of steps or procedures required to perform the various elements of the value chain.

When a firm discovers a new, more efficient set of business processes, it can obtain a cost advantage over competitors. Then it can attract customers by charging a lower price, while still making a handsome profit. Eventually, its competitors go out of business as the market decisively tilts toward the lowest-cost provider. Or, when a business discovers a unique resource, or lower-cost supplier, it can also compete effectively on cost. For instance, switching production to low-wage-cost areas of the world is one way to lower costs.

Competing on cost can be a short-lived affair and very tricky. Competitors can also discover the same or different efficiencies in production. And competitors can also move production to low-cost areas of the world. Also, competitors may decide to lose money for a period as they compete on cost.

The Internet offers some new ways to compete on cost, at least in the short term. Firms can leverage the Internet's ubiquity by lowering the costs of order entry (the customer fills out all the forms, so there is no order entry department); leverage global reach and universal standards by having a single order entry system worldwide; and leverage richness, interactivity, and personalization by creating customer profiles online and treating each individual consumer differently—without the use of an expensive sales force that performed these functions in the past. Finally, firms can leverage the information intensity of the Web by providing consumers with detailed information on products, without maintaining either expensive catalogs or a sales force.

While the Internet offers powerful capabilities for intensifying cost competition, making cost competition appear to be a viable strategy, the danger is that competitors have access to the same technology. The *factor markets*—where producers buy their supplies—are open to all. Assuming they have the skills and organizational will to use the technology, competitors can buy many of the same cost-reducing techniques in the marketplace. Even a skilled labor force can be purchased, ultimately. However, self-knowledge, proprietary tacit knowledge (knowledge that is not published or codified), and a loyal, skilled workforce are in the short term difficult to purchase in factor markets. Therefore, cost competition remains a viable strategy.

Two other generic business strategies are scope and focus. A scope strategy is a strategy to compete in all markets around the globe, rather than merely in local, regional, or national markets. The Internet's global reach, universal standards, and ubiquity can certainly be leveraged to assist businesses in becoming global competitors. Yahoo, for instance, along with all of the other top 20 e-commerce sites, has readily attained a global presence using the Internet. A focus strategy is a strategy to compete within a narrow market segment or product segment. This is a specialization strategy with the goal of becoming the premier provider in a narrow market. For instance, L.L.Bean uses the Web to continue its historic focus on outdoor sports apparel; and W.W.Grainger—the Web's most frequently visited B2B site—focuses on a narrow market segment called MRO: maintenance, repair, and operations of commercial buildings. The Internet offers some obvious capabilities that enable a focus strategy. Firms can leverage the Web's rich interactive features to create highly focused messages to different market segments; the information intensity of the Web makes it possible to focus e-mail and other marketing campaigns on small market segments; personalization-and related customization—means the same product can be customized and personalized to fulfill the very focused needs of specific market segments and consumers.

Industry structure, industry and firm value chains, value webs, and business strategy are central business concepts used throughout this book to analyze the viability of and prospects for e-commerce sites. In particular, the signature case studies found at the end of each chapter are followed with questions that may ask you to identify the competitive forces in the case, or analyze how the case illustrates changes in industry structure, industry and firm value chains, and business strategy. *E-commerce in Action* cases (found in Chapters 9–12) also use these concepts when analyzing specific firms.

## 2.6 CASE STUDY

## Priceline.com

and the Search for a Business Model that Works

Own Price" reverse-auction pricing system is a unique business model that uses the information sharing and communications power of the Internet to create a new way of pricing products and services. At Priceline, consumers can enter a bid for travel, hotels, rental cars, and even home financing. Priceline queries its vendors (airline, hotel, and financial service firms) to see if anyone will accept the bid. Priceline offers a compelling value proposition to customers, allowing them to save money by trading off flexibility about brands, product features, and/or sellers in return for lower prices. Vendors also can gain additional revenue by selling products they might not otherwise be able to sell by accepting below-retail price offers, without disrupting their existing distribution channels or retail pricing structure. Priceline is an example of using the Web to achieve efficient price discrimination: charging some consumers much more than others for the same product. In 2007, Priceline sold about 2.9 million airline tickets, 27.7 million hotel room nights, and 8.6 million rental car days.

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The original vision of Priceline's founder Jay Walker was called "demand collection." Walker poured millions into the concept of a one-stop shopping center for goods and services from trucks, to toothpaste, to vacation travel. But for much of its early history, Priceline was not profitable. In 1999, it lost over \$1 billion. It pared losses to \$15 million by 2001, but then, as travel declined after the September 11, 2001, World Trade Center tragedy, regressed in 2002, posting a \$23 million dollar loss. Key executives resigned. Headlines such as "Priceline on the Ropes" and "Curtain Call for Priceline.com" predominated.

However, in 2003, Priceline recorded its first ever annual profit, recording \$10.4 million in net income. The good news has continued since. In 2004, Priceline recorded operating income (income before tax adjustments) of \$30 million; in 2005, \$35 million; in 2006, \$61 million; and in 2007, 155.5 million. (During the period between June 2003 and December 2006, Priceline's stock held relatively steady in the mid-\$20-\$30 range, but has since steadily increased, reaching a high of \$144 in May 2008 before dropping back down into the \$95-\$100 range in the months following). In 2008, Priceline continued to exceed analyst expectations, with operating income for the second quarter of 2008 totaling \$54.1 million compared to \$34.6 million for the same period in 2007. Suddenly, Priceline was the darling of Wall Street with its stock price doubling in the course of a year, and far outstripping rivals like Orbitz and Travelocity, both of whom were have earnings declines. Priceline's rise occurred when worldwide travel was declining due to rising oil prices.

How has Priceline engineered this seeming turnaround? Has it finally found a business model that works? What went wrong with its original business, which initially seemed so promising?

Priceline commenced operations on April 6, 1998, with the sale of airline tickets. To purchase a Name Your Own Price ticket, a customer logs onto Priceline's Web site, specifies the origin and destination of the trip, the dates he or she wishes to depart, the price the customer is willing to pay, and a valid credit card to guarantee the offer. The customer must agree to fly on any major airline, leave at any time of day between 6 A.M. and 10 P.M., accept at least one stop or connection, receive no frequent flier miles or upgrades, and accept tickets that cannot be refunded or changed. Upon receiving the offer, Priceline checks the available fares, rules, and inventory provided by its participating airlines and determines whether it will fulfill the order at the requested price. If so, it notifies the customer within an hour that his or her offer has been accepted. On the consumer side, a central premise of Priceline's Name Your Own Price business model is that in many product and service categories, there are a significant number of consumers for whom brands, product features, and sellers are interchangeable, particularly if agreeing to a substitution among brands or sellers will result in saving money. On the vendor side, the Priceline Name Your Own Price business model is predicated on the assumption that sellers almost invariably have excess inventory or capacity that they would sell at lower prices, if they could do so without either lowering their prices to retail customers or advertising that lower prices are available. Priceline believed that its business model was ideally suited to industries characterized by expiring or rapidly aging inventory (for example, airline seats not sold by the time a flight takes off or hotel rooms not rented), although it did not think that it would be limited to such industries.

Priceline extended its system to hotel reservations in October 1998, and in January 1999, introduced home financing services. It went public in March 1999, and later that year, it added rental cars and even new cars to the mix. To promote its products and the Priceline brand, Priceline embarked on an extensive (and expensive) advertising campaign, hiring William Shatner to become the voice of Priceline, and it quickly became one of the most recognizable brands on the Web.

At the beginning of 2000, Priceline licensed the Name Your Own Price business model to several affiliates, including Priceline Webhouse Club, which attempted to extend the model to groceries and gasoline, and Perfect Yardsale, which used the model to sell used goods online, and added long distance calling and travel insurance. Priceline also had ambitious plans to expand internationally, and in 2000, licensed its business model to companies planning to set up similar operations in Asia and Australia.

However, by fall 2000, the picture no longer looked so rosy. In October 2000, after only 10 months of operation, Priceline's affiliate Priceline Webhouse Club, unable to raise additional financing, shut down its business, after running through \$363 million. The financial climate at the time, with its renewed emphasis on profitability, made it impossible for Jay Walker, Priceline's founder, to raise the additional hundreds of millions that would be required before Webhouse might become profitable. Walker did not see the closure as a failure of the Priceline business model, however. Instead, he characterized it as the result of the "fickle sentiments" of investors. Many analysts did not accept Walker's characterization. Instead, they pointed to other factors. First, many of the major manufacturers of food and dried goods chose not to participate in Priceline Webhouse. So, to generate consumer interest, Priceline Webhouse subsidized discounts on most products itself. Although some major manufacturers, such as Kellogg's and Hershey's, did eventually sign up, many, such as Kraft, Procter & Gamble, and Lever Brothers, did not. The second miscalculation was that bidding on groceries and gasoline did not exactly provide a "hassle-free" way to shop. Customers were required to bid on and pay for groceries online, then use a special identification card to pick them up at a participating supermarket. If the particular items purchased were not available at the store, the customer would either have to go to another store or return at another time. To many, the demise of Priceline Webhouse highlighted potential cracks in the Priceline business model and raised strong concerns about its ultimate extensibility. Priceline's founder Jay Walker resigned in December 2000.

New management sharply curtailed Priceline's expansion and laid off over 1,000 employees. Priceline Chairman Richard Braddock said, "Priceline will entertain selective expansion... with stringent financial controls. We're going to make money on this and move forward." In 2002, Priceline focused on its core business of travel reservations, shedding its auto sales and long distance telephone units. Its only non-travel business today is its 49% interest in Priceline Mortgage. And in 2003–2004, it tweaked its business model once again, adding new discount "retail"

airline ticket and rental car services to complement its hallmark Name Your Own Price offerings, in order to compete more effectively with firms such as Expedia, Travelocity, Hotwire, and Orbitz for the business of the consumer who prefers to book a specific airline or rental car. Although these services are not as lucrative as the Name Your Own Price model (it takes 1.5 to 2.5 retail plane tickets to bring in the same gross profit as a single Name Your Own Price ticket), and to a certain extent "cannibalize" its Name Your Own Price tickets, Priceline has made up at least some of the difference in increased volume. To further support this strategy, Priceline acquired a majority interest in TravelWeb, a consortium of five large hotel chains that provides Priceline with access to discount hotel rooms, purchased Active Hotels and Bookings B.V., a European hotel reservation service, and in 2005 extended its retail strategy to the hotel market. In 2006 and 2007, Priceline focused on adding to its full-service travel offerings in the United States, and recognizing that the growth of the domestic online market for travel services had slowed, on building its brand in Europe and Asia. Its international business represented approximately 56% of its gross bookings during 2007, and was a substantial contributor to its operating income during that period. Prior to the fourth quarter of 2004, substantially all of its revenues were generated in the United States. Priceline expects that the international segment of its business will represent a growing percentage of its business in the years to come. In 2008 Priceline eliminated the \$5 to \$11 booking fee which nearly all travel sites charge for airline bookings. Other sites have not stopped charging this fee. As a result, Priceline has become the undisputed low cost air reservation site.

As noted above, these strategic moves by Priceline have succeeded in generating annual profits since 2004. However, although Priceline is currently "in the black," a rosy future is by no means assured. Priceline faces industry-wide shrinkage in all forms of travel caused by the fear of terrorism, war, high fuel prices and economic recession. In addition, Priceline faces extraordinary competition, not just from other online middlemen such as Expedia, Travelocity, Hotels.com, Hotwire, and CheapTickets, but also from the direct discount sales by airlines. Priceline's competitors could easily drop their airline booking fees. Its business model today (discount travel services) is a mere shadow compared to Jay Walker's expansive vision. So even though right now it looks as if Priceline will survive, the question remains: for how long and on what terms?

## **Case Study Questions**

- 1. What are the core components of Priceline's business model?
- 2. Do you think Priceline will ultimately succeed or fail? Why?
- 3. How has Priceline (and similar online services) impacted the travel services industry?

SOURCES: Priceline.com Incorporated Form 10-Q Quarterly Report for quarterly period ended June 30, 2008, filed with the Securities and Exchange Commission on August 8, 2008; "Hot Growth Companies:Priceline Is Really Going Places," by Aaron Pressman, BusinessWeek Online, May 29, 2008; "Priceline Outshines Its Rivals," by Rick Munarriz, The Motley Fool, May 12, 2008; Priceline.com Incorporated Report on Form 10-K for the fiscal year ended December 31, 2007, filed with the Securities and Exchange Commission on March 1, 2008; "Priceline.com Reports Financial Results for 4th Quarter and Full-Year 2007", Priceline.com Press Release, February 14, 2008; "Beam Me Up, Priceline" by Rick Munarriz, The Motley Fool, August 8, 2007

4. Follow up on developments at Priceline since September 2008 when this case study was prepared. Has its business model and/or strategy changed at all, and if so, how? Who are its strongest competitors? Is it profitable or operating at a loss?

#### 2.7 REVIEW

#### KEY CONCEPTS

Identify the key components of e-commerce business models.

A successful business model effectively addresses eight key elements:

- Value proposition—how a company's product or service fulfills the needs of customers. Typical e-commerce value propositions include personalization, customization, convenience, and reduction of product search and price delivery costs.
- Revenue model—how the company plans to make money from its operations. Major e-commerce revenue models include the advertising model, subscription model, transaction fee model, sales model, and affiliate model.
- *Market opportunity*—the revenue potential within a company's intended marketspace.
- *Competitive environment*—the direct and indirect competitors doing business in the same marketspace, including how many there are and how profitable they are.
- *Competitive advantage*—the factors that differentiate the business from its competition, enabling it to provide a superior product at a lower cost.
- *Market strategy*—the plan a company develops that outlines how it will enter a market and attract customers.
- *Organizational development*—the process of defining all the functions within a business and the skills necessary to perform each job, as well as the process of recruiting and hiring strong employees.
- *Management team*—the group of individuals retained to guide the company's growth and expansion.

#### Describe the major B2C business models.

There are a number of different business models being used in the B2C e-commerce arena. The major models include the following:

- Portal—offers powerful search tools plus an integrated package of content and services; typically utilizes a combined subscription/advertising revenue/ transaction fee model; may be general or specialized (vortal).
- *E-tailer*—online version of traditional retailer; includes virtual merchants (online retail store only), bricks-and-clicks e-tailers (online distribution channel for a company that also has physical stores), catalog merchants (online version of direct mail catalog), and manufacturers selling directly over the Web.

- *Content provider*—information and entertainment companies that provide digital content over the Web; typically utilizes an advertising, subscription, or affiliate referral fee revenue model.
- *Transaction broker*—processes online sales transactions; typically utilizes a transaction fee revenue model.
- *Market creator*—uses Internet technology to create markets that bring buyers and sellers together; typically utilizes a transaction fee revenue model.
- Service provider—offers services online.
- *Community provider*—provides an online community of like-minded individuals for networking and information sharing; revenue is generated by advertising, referral fees, and subscriptions.

#### Describe the major B2B business models.

The major business models used to date in the B2B arena include:

- *E-distributor*—supplies products directly to individual businesses.
- *E-procurement*—single firms create digital markets for thousands of sellers and buyers.
- *Exchange*—independently owned digital marketplace for direct inputs, usually for a vertical industry group.
- Industry consortium—industry-owned vertical digital market.
- *Private industrial network*—industry-owned private industrial network that coordinates supply chains with a limited set of partners.

#### Recognize business models in other emerging areas of e-commerce.

A variety of business models can be found in the consumer-to-consumer e-commerce, peer-to-peer e-commerce, and m-commerce areas:

- *C2C business models*—connect consumers with other consumers. The most successful has been the market creator business model used by eBay.
- P2P business models—enable consumers to share files and services via the Web without common servers. A challenge has been finding a revenue model that works.
- *M-commerce business models*—take traditional e-commerce models and leverage emerging wireless technologies to permit mobile access to the Web.
- *E-commerce enablers*—focus on providing the infrastructure necessary for e-commerce companies to exist, grow, and prosper.

#### Understand key business concepts and strategies applicable to e-commerce.

The Internet and the Web have had a major impact on the business environment in the last decade, and have affected:

- *Industry structure*—the nature of players in an industry and their relative bargaining power by changing the basis of competition among rivals, the barriers to entry, the threat of new substitute products, the strength of suppliers, and the bargaining power of buyers.
- Industry value chains—the set of activities performed in an industry by suppliers, manufacturers, transporters, distributors, and retailers that transforms raw inputs into final products and services by reducing the cost of information and other transaction costs.

- *Firm value chains*—the set of activities performed within an individual firm to create final products from raw inputs by increasing operational efficiency.
- Business strategy—a set of plans for achieving superior long-term returns on the capital invested in a firm by offering unique ways to differentiate products, obtain cost advantages, compete globally, or compete in a narrow market or product segment.

#### QUESTIONS

- 1. What is a business model? How does it differ from a business plan?
- 2. What are the eight key components of an effective business model?
- 3. What are Amazon's primary customer value propositions?
- 4. Describe the five primary revenue models used by e-commerce firms.
- 5. Why is targeting a market niche generally smarter for a community provider than targeting a large market segment?
- 6. Besides music, what other forms of information could be shared through peer-to-peer sites? Are there legitimate commercial uses for P2P commerce?
- 7. Would you say that Amazon and eBay are direct or indirect competitors? (You may have to visit the Web sites to answer.)
- 8. What are some of the specific ways that a company can obtain a competitive advantage?
- 9. Besides advertising and product sampling, what are some other market strategies a company might pursue?
- 10. What elements of FreshDirect's business model may be faulty? Does this business scale up to a regional or national size?
- 11. Why is it difficult to categorize e-commerce business models?
- 12. Besides the examples given in the chapter, what are some other examples of vertical and horizontal portals in existence today?
- 13. What are the major differences between virtual storefronts, such as Drugstore.com, and bricks-and-clicks operations, such as Walmart.com? What are the advantages and disadvantages of each?
- 14. Besides news and articles, what other forms of information or content do content providers offer?
- 15. What is a reverse auction? What company is an example of this type of business?
- 16. What are the key success factors for exchanges? How are they different from portals?
- 17. What is an application service provider?
- 18. What are some business models seen in the C2C and P2P e-commerce areas?
- 19. How have the unique features of e-commerce technology changed industry structure in the travel business?
- 20. Who are the major players in an industry value chain and how are they impacted by e-commerce technology?
- 21. What are four generic business strategies for achieving a profitable business?

#### PROJECTS

- Select an e-commerce company. Visit its Web site and describe its business model based on the information you find there. Identify its customer value proposition, its revenue model, the marketspace it operates in, who its main competitors are, any comparative advantages you believe the company possesses, and what its market strategy appears to be. Also try to locate information about the company's management team and organizational structure. (Check for a page labeled "the Company," "About Us," or something similar.)
- 2. Examine the experience of shopping on the Web versus shopping in a traditional environment. Imagine that you have decided to purchase a digital camera (or any other item of your choosing). First, shop for the camera in a traditional manner. Describe how you would do so (for example, how you would gather the necessary information you would need to choose a particular item, what stores you would visit, how long it would take, prices, etc.). Next, shop for the item on the Web. Compare and contrast your experiences. What were the advantages and disadvantages of each? Which did you prefer and why?
- 3. Visit eBay and look at the many types of auctions available. If you were considering establishing a rival specialized online auction business, what are the top three market opportunities you would pursue, based on the goods and auction community in evidence at eBay? Prepare a report or slide presentation to support your analysis and approach.
- 4. During the early days of e-commerce, first-mover advantage was touted as one way to success. On the other hand, some suggest that being a market follower can yield rewards as well. Which approach has proven to be more successful—first mover or follower? Choose two e-commerce companies that prove your point, and prepare a brief presentation to explain your analysis and position.
- 5. Prepare a research report (3 to 5 pages) on the current and potential future impacts of e-commerce technology on the book publishing industry.

#### WEB SITE RESOURCES www.prenhall.com/laudon

- Additional projects, exercises and tutorials
- Careers: Explore career opportunities in e-commerce
- Raising capital and business plans