STUDENT LEARNING OBJECTIVES

After completing this chapter, you will be able to answer the following questions:

1. What are the unique features of e-commerce, digital markets, and digital goods?
2. What are the principal e-commerce business and revenue models?
3. How has e-commerce transformed marketing?
4. How has e-commerce affected business-to-business transactions?
5. What is the role of m-commerce in business, and what are the most important m-commerce applications?
6. What issues must be addressed when building an e-commerce Web site?
CHAPTER OUTLINE

Chapter-Opening Case: Nexon Games: E-commerce Goes Social

9.1 E-commerce and the Internet
9.2 E-commerce: Business and Technology
9.3 The Mobile Digital Platform and Mobile E-commerce
9.4 Building an E-commerce Web Site
9.5 Hands-On MIS Projects

Business Problem-Solving Case: Facebook’s Dilemma: Profits (Theirs) Versus Privacy (Yours)

NEXON GAMES: E-COMMERCE GOES SOCIAL

If you like to play online games, you may already be familiar with MapleStory. It’s an online role-playing game in which players assume the identities of warriors, magicians, and thieves to collectively fight monsters. You can play the game for free, but if you want your avatar to have a new outfit, wacky hairstyle, or funny pet, you’ll need to pay for these extras. And if you want your MapleStory characters to marry each other in an elaborate Las Vegas ceremony attended by other in-game buddies, it will cost $20 to $29.

MapleStory is a recent creation of Nexon Holdings Inc., the world leader in massively multiplayer online role-playing games. Nexon is headquartered in South Korea, with branch offices in China, Japan, and the United States. Nexon pioneered the “item” (microtransactions) business model, where users can access the full game for free but later opt to pay for game enhancements (items). Nexon is a real pioneer in the development of the “fremium” business model where some content is free, but premium content or service is charged for. Nexon charges players anywhere from 30 cents to $30 each for virtual “items” to enhance their game experiences. MapleStory has 92 million users globally, with over 6 million registered in North America. In 2007, players world-
wide purchased more than 1.3 million articles of clothing and over 1 million hair makeovers for their MapleStory characters.

One source of Nexon’s popularity is the ability to socialize with other users. According to Min Kim, vice president of marketing at Nexon’s U.S. division, “we sell social experiences, not packaged products.” During much of the last decade, most games were played alone. As the Internet and PCs developed more capabilities for rich-media experiences, solitary gaming has given way to social gaming. Whether it’s integrated instant messaging, voice over IP, or text messaging, there are now multiple mechanisms for players to communicate with their friends. Video games now attract a whole new type of consumer—people who want to have a social experience.

In 2009, Nexon America introduced a new, free service initiative called BlockParty that will centralize all of Nexon’s games into one online portal and combine it with a social network designed to expand players’ gaming experience. According to Nexon America executives, BlockParty is one part game, one part portal with a twist of social networking. Nexon America’s goal for BlockParty is to create the biggest online party with great games and awesome gamers.

Other popular Nexon games include Mabinogi, Combat Arms, and Dungeon Fighter Online. Mabinogi allows players to participate in mundane tasks such as farming, writing music, and marrying as well as fighting. The game continuously evolves through the release of patches (termed “Generations” and “Chapters”) that introduce new areas to explore and advance the story line. Combat Arms is a first-person shooter with over 3 million registered players featuring highly advanced graphics, and Dungeon Fighter Online is a unique fighting game where players choose one of several different “classes”. Nexon games feature forums where players are invited to socialize with friends, share hints, or just hang out.

Nexon looks like it has a winning formula for success online. Despite the recession, 2009 revenues are estimated to be $349 million, up 29 percent from 2008. Prepaid cards used to purchase Nexon game items are now the second best-selling entertainment gift card (after Apple’s iTunes Store) at Target Stores.


Nexon’s online games exemplify the new face of e-commerce. Selling physical goods on the Internet is still important, but much of the excitement and interest now centers around services and social experiences—social networking, photo sharing, sharing music, sharing ideas, and multiplayer online games where users communicate and interact with other users. The ability to link with other users and with other Web sites has spawned a huge wave of new businesses built around linking and sharing.

The chapter-opening diagram calls attention to important points raised by this case and this chapter. The business challenge facing Nexon is that Internet technology is changing rapidly, along with consumer tastes. Nexon customers want to play games online in a Web 2.0 environment with other friends in a social atmosphere. Customers wanted games with a virtual life quality so they could differentiate their warriers and game characters, and enrich their social experiences online. To meet these changing market requirements, Nexon needed to marry its strength in game design and online delivery, with the growing market demand for social interaction. Nexon pioneered in the microtransactions business model and became a leading provider of massively multiplayer online games. The company provides games replete with action and interactivity where players can socialize with friends or other players. By playing up social features of online games, and providing the ability to make online micropayments for small purchases, Nexon’s games have huge numbers of users and a continuing stream of revenue.
9.1 E-commerce and the Internet

Have you ever purchased music over the Web? Have you ever used the Web to search for information about your sneakers before you bought them in a retail store? If so, you’ve participated in e-commerce. So have hundreds of millions of people around the globe. And although most purchases still take place through traditional channels, e-commerce continues to grow rapidly and to transform the way many companies do business.

E-COMMERCE TODAY

E-commerce refers to the use of the Internet and the Web to transact business. More formally, e-commerce is about digitally enabled commercial transactions between and among organizations and individuals. For the most part, this means transactions that occur over the Internet and the Web. Commercial transactions involve the exchange of value (e.g., money) across organizational or individual boundaries in return for products and services.

E-commerce began in 1995 when one of the first Internet portals, Netscape.com, accepted the first ads from major corporations and popularized the idea that the Web could be used as a new medium for advertising and sales. No one envisioned at the time what would turn out to be an exponential growth curve for e-commerce retail sales, which doubled and tripled in the early years. E-commerce grew at double-digit rates until the recession of 2008–2009 when growth slowed to a crawl. In 2009, e-commerce revenues were flat (Figure 9-1), not bad considering that traditional retail sales were shrinking by 5% annually. In fact, e-commerce during the recession was the only stable segment in retail. Some online retailers forged ahead at a record pace: Amazon’s 2009 revenues were up 25 percent over 2008 sales (eMarketer, 2009; U.S. Census, 2009).

Mirroring the history of many technological innovations, such as the telephone, radio, and television, the very rapid growth in e-commerce in the early years created a market bubble in e-commerce stocks. Like all bubbles, the “dot-com” bubble burst (in March 2001). A large number of e-commerce companies failed during this process. Yet for many others, such as Amazon, eBay, Expedia, and Google, the results have been more positive: soaring revenues, fine-tuned business models that produce profits, and rising stock prices. By 2006, e-commerce revenues returned to solid growth, and have continued to be the fastest growing form of retail trade in the United States, Europe, and Asia.

• Online consumer sales grew to an estimated $228 billion in 2009, an increase of more than 1 percent since 2008 (including travel services and digital downloads), with 123 million people purchasing online and 152 million shopping and gathering information but not necessarily purchasing (eMarketer, 2009).
The number of individuals online in the United States expanded to 199 million in 2009, up from 147 million in 2004. In the world, over 1.4 billion people are now connected to the Internet. Growth in the overall Internet population has spurred growth in e-commerce.

About 73 million Americans now access the Internet using a smartphone such as an iPhone or a BlackBerry. Mobile e-commerce has begun a rapid growth based on apps, ringtones, downloaded entertainment, and location-based services.

On the average day, 143 million people go online, 113 million send e-mail, 100 million use a search engine, 20 million read a blog, 6 million write on their blogs, 13 million share music on peer-to-peer networks, 40 million work on their social network profile, 24 million visit Wikipedia, and 32 million watch a video. (Pew Internet, 2009).

B2B e-commerce—use of the Internet for business-to-business commerce and collaboration among business partners expanded 2 percent to more than $3.7 trillion.

Why has e-commerce grown so rapidly? The answer lies in the unique nature of the Internet and the Web. Simply put, the Internet and e-commerce technologies are much more rich and powerful than previous technology revolutions like radio, television, and the telephone. More industries will be transformed by e-commerce, including travel reservations, music and entertainment, news, software, education, and finance. Table 9.1 highlights these new e-commerce developments.

### WHY E-COMMERCE IS DIFFERENT

Why has e-commerce grown so rapidly? The answer lies in the unique nature of the Internet and the Web. Simply put, the Internet and e-commerce technologies are much more rich and powerful than previous technology revolutions like radio, television, and the telephone. More industries will be transformed by e-commerce, including travel reservations, music and entertainment, news, software, education, and finance. Table 9.1 highlights these new e-commerce developments.

#### Ubiquity

In traditional commerce, a marketplace is a physical place, such as a retail store, that you visit to transact business. E-commerce is ubiquitous, meaning that it is available just about everywhere, at all times. It makes it possible to shop from your desktop, at home, at work, or even from your car, using mobile commerce. The result is called a **marketspace**—a market-
Chapter 9: E-commerce: Digital Markets, Digital Goods

Business Transformation

- E-commerce remains the fastest growing form of commerce when compared to physical retail stores, services, and entertainment.
- The first wave of e-commerce transformed the business world of books, music, and air travel. In the second wave, nine new industries are facing a similar transformation scenario: marketing and advertising, telecommunications, movies, television, jewelry, real estate, hotels, bill payments, and software.
- The breadth of e-commerce offerings grows, especially in the services economy of social networking, travel, information clearinghouses, entertainment, retail apparel, appliances, and home furnishings.
- The online demographics of shoppers broaden to match that of ordinary shoppers.
- Pure e-commerce business models are refined further to achieve higher levels of profitability, whereas traditional retail brands, such as Sears, JC Penney, L.L. Bean, and Wal-Mart, use e-commerce to retain their dominant retail positions.
- Small businesses and entrepreneurs continue to flood the e-commerce marketplace, often riding on the infrastructures created by industry giants, such as Amazon and eBay.
- Mobile e-commerce begins to take off in the United States with location-based services and entertainment downloads including e-books.

Technology Foundations

- Wireless Internet connections (Wi-Fi, WiMax, and 3G smart phones) grow rapidly.
- Powerful handheld mobile devices support music, Web surfing, and entertainment as well as voice communication. Podcasting takes off as a medium for distribution of video, radio, and user-generated content.
- The Internet broadband foundation becomes stronger in households and businesses as transmission prices fall. More than 80 million households had broadband cable or DSL access to the Internet in 2009—about 72 percent of all households in the United States (eMarketer, 2009).
- Social networking software and sites such as Facebook, MySpace, Twitter, LinkedIn and thousands of others become a major new platform for e-commerce, marketing, and advertising.
- New Internet-based models of computing, such as cloud computing, software as a service (SaaS), and Web 2.0 software greatly reduce the cost of e-commerce Web sites.

New Business Models Emerge

- More than half the Internet user population join an online social networks, contribute to social bookmarking sites, create blogs, and share photos. Together these sites create a massive online audience as large as television that is attractive to marketers.
- The traditional advertising business model is severely disrupted as Google and other technology players such as Microsoft and Yahoo! seek to dominate online advertising, and expand into offline ad brokerage for television and newspapers.
- Newspapers and other traditional media adopt online, interactive models but are losing advertising revenues to the online players despite gaining online readers.
- Online entertainment business models offering television, movies, music, sports, and e-books surge, with cooperation among the major copyright owners in Hollywood and New York with the Internet distributors like Google, YouTube, Facebook, and Microsoft.
place extended beyond traditional boundaries and removed from a temporal and geographic location.

From a consumer point of view, ubiquity reduces transaction costs—the costs of participating in a market. To transact business, it is no longer necessary that you spend time or money traveling to a market, and much less mental effort is required to make a purchase.

**Global Reach**

E-commerce technology permits commercial transactions to cross cultural and national boundaries far more conveniently and cost effectively than is true in traditional commerce. As a result, the potential market size for e-commerce merchants is roughly equal to the size of the world’s online population (estimated to be more than 1.5 billion, and growing rapidly).

In contrast, most traditional commerce is local or regional—it involves local merchants or national merchants with local outlets. Television and radio stations and newspapers, for instance, are primarily local and regional institutions with limited, but powerful, national networks that can attract a national audience but not easily cross national boundaries to a global audience.

<table>
<thead>
<tr>
<th>E-commerce Technology Dimension</th>
<th>Business Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ubiquity.</strong> Internet/Web technology is available everywhere: at work, at home, and elsewhere via mobile devices.</td>
<td>The marketplace is extended beyond traditional boundaries and is removed from a temporal and geographic location. “Marketspace” anytime is created; shopping can take place anywhere. Customer convenience is enhanced, and shopping costs are reduced.</td>
</tr>
<tr>
<td><strong>Global Reach.</strong> The technology reaches across national boundaries, around the Earth.</td>
<td>Commerce is enabled across cultural and national boundaries seamlessly and without modification. The marketspace includes, potentially, billions of consumers and millions of businesses worldwide.</td>
</tr>
<tr>
<td><strong>Universal Standards.</strong> There is one set of technology standards, namely Internet standards.</td>
<td>With one set of technical standards across the globe, disparate computer systems can easily communicate with each other.</td>
</tr>
<tr>
<td><strong>Richness.</strong> Video, audio, and text messages are possible.</td>
<td>Video, audio, and text marketing messages are integrated into a single marketing message and consumer experience.</td>
</tr>
<tr>
<td><strong>Interactivity.</strong> The technology works through interaction with the user.</td>
<td>Consumers are engaged in a dialog that dynamically adjusts the experience to the individual, and makes the consumer a co-participant in the process of delivering goods to the market.</td>
</tr>
<tr>
<td><strong>Information Density.</strong> The technology reduces information costs and raises quality.</td>
<td>Information processing, storage, and communication costs drop dramatically, whereas currency, accuracy, and timeliness improve greatly. Information becomes plentiful, cheap, and more accurate.</td>
</tr>
<tr>
<td><strong>Personalization/Customization.</strong> The technology allows personalized messages to be delivered to individuals as well as groups.</td>
<td>Personalization of marketing messages and customization of products and services are based on individual characteristics.</td>
</tr>
<tr>
<td><strong>Social Technology.</strong> User content generation and social networking.</td>
<td>New Internet social and business models enable user content creation and distribution, and support social networks.</td>
</tr>
</tbody>
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Universal Standards

One strikingly unusual feature of e-commerce technologies is that the technical standards of the Internet and, therefore, the technical standards for conducting e-commerce are universal standards. They are shared by all nations around the world and enable any computer to link with any other computer regardless of the technology platform each is using. In contrast, most traditional commerce technologies differ from one nation to the next. For instance, television and radio standards differ around the world, as does cell telephone technology.

The universal technical standards of the Internet and e-commerce greatly lower market entry costs—the cost merchants must pay simply to bring their goods to market. At the same time, for consumers, universal standards reduce search costs—the effort required to find suitable products.

Richness

Information richness refers to the complexity and content of a message. Traditional markets, national sales forces, and small retail stores have great richness: They are able to provide personal, face-to-face service using aural and visual cues when making a sale. The richness of traditional markets makes them powerful selling or commercial environments. Prior to the development of the Web, there was a trade-off between richness and reach: The larger the audience reached, the less rich the message. The Web makes it possible to deliver rich messages with text, audio, and video simultaneously to large numbers of people.

Interactivity

Unlike any of the commercial technologies of the twentieth century, with the possible exception of the telephone, e-commerce technologies are interactive, meaning they allow for two-way communication between merchant and consumer. Television, for instance, cannot ask viewers any questions or enter into conversations with them, and it cannot request that customer information be entered into a form. In contrast, all of these activities are possible on an e-commerce Web site. Interactivity allows an online merchant to engage a consumer in ways similar to a face-to-face experience but on a massive, global scale.

Information Density

The Internet and the Web vastly increase information density—the total amount and quality of information available to all market participants, consumers, and merchants alike. E-commerce technologies reduce information collection, storage, processing, and communication costs while greatly increasing the currency, accuracy, and timeliness of information.

Information density in e-commerce markets make prices and costs more transparent. Price transparency refers to the ease with which consumers can find out the variety of prices in a market; cost transparency refers to the ability of consumers to discover the actual costs merchants pay for products.

There are advantages for merchants as well. Online merchants can discover much more about consumers than in the past. This allows merchants to segment the market into groups who are willing to pay different prices and permits the merchants to engage in price discrimination—selling the same goods, or nearly the same goods, to different targeted groups at different prices. For instance, an online merchant can discover a consumer’s avid interest in expensive, exotic vacations and then pitch high-end vacation plans to that consumer at a premium price, knowing this person is willing to pay extra for such a vacation. At the same time, the online merchant can pitch the same vacation plan at a lower price to a more price-sensitive consumer. Information density also helps merchants differentiate their products in terms of cost, brand, and quality.

Personalization/Customization

E-commerce technologies permit personalization: Merchants can target their marketing messages to specific individuals by adjusting the message to a person’s name, interests, and past purchases. The technology also permits customization—changing the delivered product or service based on a user’s preferences or prior behavior. Given the interactive
nature of e-commerce technology, much information about the consumer can be gathered in the marketplace at the moment of purchase. With the increase in information density, a great deal of information about the consumer’s past purchases and behavior can be stored and used by online merchants.

The result is a level of personalization and customization unthinkable with traditional commerce technologies. For instance, you may be able to shape what you see on television by selecting a channel, but you cannot change the content of the channel you have chosen. In contrast, the Wall Street Journal Online allows you to select the type of news stories you want to see first and gives you the opportunity to be alerted when certain events happen.

You can see these features of e-commerce at work in the Interactive Session on Technology. Turner Sports New Media operates a series of Web sites for NASCAR, the NBA, and other sports organizations. It uses interactivity and richness, and is able to combine the reach of cable TV with deep relationships with consumers. For instance, at the Major League Baseball Web site (mlb.com) you can watch the postseason games from any of four different camera angles! Your choice.

Social Technology: User Content Generation and Social Networking
In contrast to previous technologies, the Internet and e-commerce technologies have evolved to be much more social by allowing users to create and share with their personal friends (and a larger worldwide community) content in the form of text, videos, music, or photos. Using these forms of communication, users are able to create new social networks and strengthen existing ones.

All previous mass media in modern history, including the printing press, use a broadcast model (one-to-many) where content is created in a central location by experts (professional writers, editors, directors, and producers) and audiences are concentrated in huge numbers to consume a standardized product. The new Internet and e-commerce empower users to create and distribute content on a large scale, and permit users to program their own content consumption. The Internet provides a unique many-to-many model of mass communications.

KEY CONCEPTS IN E-COMMERCE: DIGITAL MARKETS AND DIGITAL GOODS IN A GLOBAL MARKETPLACE

The location, timing, and revenue models of business are based in some part on the cost and distribution of information. The Internet has created a digital marketplace where millions of people all over the world are able to exchange massive amounts of information directly, instantly, and for free. As a result, the Internet has changed the way companies conduct business and increased their global reach.

The Internet reduces information asymmetry. An information asymmetry exists when one party in a transaction has more information that is important for the transaction than the other party. That information helps determine their relative bargaining power. In digital markets, consumers and suppliers can “see” the prices being charged for goods, and in that sense digital markets are said to be more “transparent” than traditional markets.

For example, before auto retailing sites appeared on the Web, there was a significant information asymmetry between auto dealers and customers. Only the auto dealers knew the manufacturers’ prices, and it was difficult for consumers to shop around for the best price. Auto dealers’ profit margins depended on this asymmetry of information. Today’s consumers have access to a legion of Web sites providing competitive pricing information, and three-fourths of U.S. auto buyers use the Internet to shop around for the best deal. Thus, the Web has reduced the information asymmetry surrounding an auto purchase. The Internet has also helped businesses seeking to purchase from other businesses reduce information asymmetries and locate better prices and terms.

Digital markets are very flexible and efficient because they operate with reduced search and transaction costs, lower menu costs (merchants’ costs of changing prices), price discrimination, and the ability to change prices dynamically based on market conditions.
Sports are hot on the Internet. Sports Web sites in the United States drew over 86 million monthly visitors in 2009; next to social networks, sports sites were the most popular destination sites. The single-site leader in sports sites is ESPN (23 million monthly visitors and owned by Disney), but close behind are a family of sites like NASCAR.com, PGA.com, MLB.com (Major League Baseball), NBA.com, and a host of related sites, that are all operated by Turner Sports Inc. The Turner Sports sites collectively draw even more fans than ESPN. In 2009, Turner Sports is embracing the techniques and technologies of social media to promote its clients’ Web programs, making Turner the leading innovator in Internet sports programming. In the past few years, Turner Sports established itself as an innovator through its ability to combine TV and the Web more successfully than rivals. Turner’s success allows them to both sell more ads and persuade sports leagues such as the PGA Tour and NASCAR to pay Turner millions per year to run their Web operations. Turner’s formula is to provide rich, interactive features that use TV and the Web simultaneously to enhance the viewer’s experience. With today’s new social media, this formula is hitting on all cylinders.

Turner Sports is the division of Turner Broadcasting System responsible for sports broadcasts on Turner cable channels (TBS, TNT, and Peachtree TV) and for operating a family of online interactive properties for professional sports organizations. While Turner dominated cable television sports since its inception in 1975, it was late coming to the Internet and creating an integrated Web-TV platform. Turner’s Internet sports program started out in 2001 with NASCAR.com. By 2006, Turner had added PGA.com and PGATour.com, and in early 2008 reached an agreement with the NBA to jointly manage NBA.com, which has 5.5 million unique monthly visitors. Turner’s latest target is Major League Soccer’s Web operations, which, oddly enough, are managed by Major League Baseball. Turner earns fees for managing the sites and splits ad revenues with each league. With each site that Turner Sports New Media manages, its goal is to get fans switching between TV and unique features on their desktops or laptops. For example, PGATour.com visitors can watch play on certain holes, watch a certain player, get aerial views of the course, and get tips from pros on the site while events are in progress.

Many sports leagues don’t like to relinquish control of their Web sites to outside organizations, preferring to handle their Web operations themselves in order to control their brands and Web site content. In the case of Turner Sports, the same business that controls your cable TV distribution also can control your Web distribution. For instance, the NFL recently reacquired rights to its Web site back from CBS. But Turner’s value proposition to sports leagues is a compelling one. Turner offers to provide an integrated platform that connects the league’s television broadcasts with its Web site activities. Why rely on two or more separate organizations when its all “media”? The league’s official site will benefit from Turner’s reach and the Web’s relationship with consumers. Turner’s experience with running Web sites is extensive, as is its track record for success in increasing site traffic and developing innovative interactive applications. Marketers can place ads in multiple formats (TV and the Internet).

Turner’s oldest client is NASCAR, and the recent contract extension signed between the two suggests that NASCAR is more than happy with Turner’s results. NASCAR.com has been one of the top three sports league sites on the Internet in the past few years. Since Turner assumed control of the league’s Web rights, the site has seen double-digit growth in page views and an increase in average monthly unique visitors of 25 percent over the last 7 years. Over the past calendar year the site had 1.4 billion page views. Turner will continue to operate NASCAR.com through 2014, collaborating on content creation, e-commerce, and race ticket sales. Turner will continue to have oversight over news content, broadband coverage, wireless platforms, video downloads, and ad sales, and will seek to provide fans with better information and NASCAR merchandise.

Turner has implemented a wide array of cutting-edge applications and offerings to NASCAR.com, including TrackPass, its most interactive feature. TrackPass is a premium service that consists of several interactive applications, including TrackPass Scanner, TrackPass PitCommand, and TrackPass RaceView. RaceView renders each car digitally and offers a multitude of camera angles and viewing options for each and every car and driver. Users can pause, rewind, and replay live races and listen to any driver’s in-car audio, in addition to a variety of other features that give the viewer unparalleled customization over how they watch and enjoy each race.

Other features that Turner has implemented on NASCAR.com include a 24-hour news center, live streaming for some races, a social networking “community” section, an extensive video library, live and interactive broadband shows, and a merchandise superstore.

Turner’s contract extension with the NBA extends the longest-running partnership between a league and
programming network in professional sports to a whopping 32 years. The contract also grants Turner Sports access to the NBA.com network, which includes WNBA.com and NBADLeague.com in addition to the flagship site. Under the contract, TNT will continue to televise NBA games, broaden their Internet involvement, and jointly manage NBA’s digital businesses along with the league. These businesses include NBA TV (a 24-hour digital TV network), operating the NBA.com network of sites, NBA League Pass, advertising, and availability of TNT’s on-air TV talent for NBA.com’s interactive features. Turner is likely to develop features like TrackPass RaceView for NBA games to provide a similar level of richness and customizability to the viewer experience.

One feature that Turner hopes to further develop is TNT NBA Overtime—a broadband feature on NBA.com that streams TNT-televised games, highlights, exclusive interviews, expert analysis, and more, which users can get live, delayed, and on demand. Turner’s contract with the NBA is slated to run through the 2015–16 NBA season. If Turner’s track record continues, NBA.com will continue to be an example of rich, interactive media done right. But Internet technologies change rapidly, and Turner is just starting to exploit the power of social media.

In April 2009, Turner Sports announced its new social media marketing campaign that utilizes Facebook, YouTube, and Twitter to promoted TNT’s “40 Games in 40 Nights” coverage of the 2009 NBA Playoffs. The campaign includes player-specific videos on YouTube, messaging on Facebook coordinated with sponsored ads, and a special program to encourage Facebook users to “Become a Fan” of the NBA. Turner Sports is adding to its social media campaign with a coordinated Twitter full-court press featuring updates from popular announcers, with links to the NBA’s Twitter page.

Turner is starting to experiment with user-generated content and Web experience control in a 2009 deal with MLB.com to give online fans user-controlled cameras to view every MLB postseason game through a subscription service at MLB.com/Postseason.TV. Users can control their experience of the games. To promote more user involvement at NASCAR.com, NASCAR announced a new program called “NASCAR Citizen Journalist,” where the best-known independent NASCAR bloggers and Web site operators are republished at NASCAR.com.


CASE STUDY QUESTIONS

1. Describe the unique features of e-commerce technology illustrated in this case.
2. How does the Web enhance the TV businesses for the companies discussed in this case? How does it add value?
3. Why is NASCAR TrackPass a good example of Turner Sports New Media’s value to sports league sites?
4. Do you think Turner Sports will be successful migrating its content to social media sites where its viewers are moving? Why or why not?

MIS IN ACTION

Visit PGA.com, PGATour.com, or NASCAR.com, explore the Web site, and then answer the following questions:

1. What unique features of e-commerce technology can you find on the site? What purposes do they serve?
2. How does the Web site promote TV viewing? How does it create value for the company?
3. What e-commerce business and revenue models are being used?

dynamic pricing, the price of a product varies depending on the demand characteristics of the customer or the supply situation of the seller.

These new digital markets may either reduce or increase switching costs, depending on the nature of the product or service being sold, and they may cause some extra delay in gratification. Unlike a physical market, you can’t immediately consume a product such as clothing purchased over the Web (although immediate consumption is possible with digital music downloads and other digital products.)
Digital markets provide many opportunities to sell directly to the consumer, bypassing intermediaries, such as distributors or retail outlets. Eliminating intermediaries in the distribution channel can significantly lower purchase transaction costs. To pay for all the steps in a traditional distribution channel, a product may have to be priced as high as 135 percent of its original cost to manufacture.

Figure 9-2 illustrates how much savings result from eliminating each of these layers in the distribution process. By selling directly to consumers or reducing the number of intermediaries, companies are able to raise profits while charging lower prices. The removal of organizations or business process layers responsible for intermediary steps in a value chain is called disintermediation.

Disintermediation is affecting the market for services. Airlines and hotels operating their own reservation sites online earn more per ticket because they have eliminated travel agents as intermediaries. Table 9.3 summarizes the differences between digital markets and traditional markets.

**Digital Goods**

The Internet digital marketplace has greatly expanded sales of digital goods. Digital goods are goods that can be delivered over a digital network. Music tracks, video, Hollywood movies, software, newspapers, magazines, and books can all be expressed, stored, delivered, and sold as purely digital products. Currently, most of these products are sold as physical goods, for example, CDs, DVDs, newspapers, and hard-copy books. But the Internet offers the possibility of delivering all these products on demand as digital products.

In general, for digital goods, the marginal cost of producing another unit is about zero (it costs nothing to make a copy of a music file). However, the cost of producing the original first unit is relatively high—in fact, it is nearly the total cost of the product because there are few other costs of inventory and distribution. Costs of delivery over the Internet are very low, marketing costs remain the same, and pricing can be highly variable. (On the Internet, the merchant can change prices as often as desired because of low menu costs.)

The impact of the Internet on the market for these kinds of digital goods is nothing short of revolutionary, and we see the results around us every day. Businesses dependent on physical products for sales—such as bookstores, book publishers, music labels, and film studios—face the possibility of declining sales and even destruction of their businesses. Newspapers and magazines are losing readers to the Internet, and losing advertisers even as online newspaper readership soars. Record label companies are losing sales to Internet piracy, and record stores are going out of business. Video rental firms, such as Blockbuster, based on a physical DVD market and physical stores have lost sales to NetFlix using an Internet catalog and streaming video model. Hollywood studios as well face the prospect that Internet pirates will distribute their product as a digital stream, bypassing Hollywood’s monopoly on DVD rentals and sales, which now accounts for more than half of industry film revenues. Table 9.4 describes digital goods and how they differ from traditional physical goods.
9.2 E-commerce: Business and Technology

E-commerce has grown from a few advertisements on early Web portals in 1995, to over 5 percent of all retail sales in 2010 (an estimated $245 billion), surpassing the mail order catalog business. E-commerce is a fascinating combination of business models and new information technologies. Let’s start with a basic understanding of the types of e-commerce, and then describe e-commerce business and revenue models. We’ll also cover new technologies that help companies reach over 200 million online consumers in the United States, and an estimated 600 million more worldwide.

**TYPES OF E-COMMERCE**

There are many ways to classify electronic commerce transactions. One is by looking at the nature of the participants in the electronic commerce transaction. The three major electronic commerce categories are business-to-consumer (B2C) e-commerce, business-to-business (B2B) e-commerce, and consumer-to-consumer (C2C) e-commerce.
• **Business-to-consumer (B2C)** electronic commerce involves retailing products and services to individual shoppers. BarnesandNoble.com, which sells books, software, and music to individual consumers, is an example of B2C e-commerce.

• **Business-to-business (B2B)** electronic commerce involves sales of goods and services among businesses. ChemConnect’s Web site for buying and selling chemicals and plastics is an example of B2B e-commerce.

• **Consumer-to-consumer (C2C)** electronic commerce involves consumers selling directly to consumers. For example, eBay, the giant Web auction site, enables people to sell their goods to other consumers by auctioning their merchandise off to the highest bidder, or for a fixed price. Craigslist is the most widely used platform used by consumers to buy and sell directly from others.

Another way of classifying electronic commerce transactions is in terms of the platforms used by participants in a transaction. Until recently, most e-commerce transactions took place using a personal computer connected to the Internet over wired networks. Two wireless mobile alternatives have emerged: mobile smartphones and dedicated e-readers like the Kindle using cellular networks, and mobile smartphones and small tablet computers using Wi-Fi wireless networks. The use of handheld wireless devices for purchasing goods and services from any location has been termed **mobile commerce** or **m-commerce**. Both business-to-business and business-to-consumer e-commerce transactions can take place using m-commerce technology, which we discuss in detail in Section 9.3.

**E-COMMERCE BUSINESS MODELS**

Changes in the economics of information described earlier have created the conditions for entirely new business models to appear, while destroying older business models. Table 9.5 describes some of the most important Internet business models that have emerged. All, in one way or another, use the Internet to add extra value to existing products and services or to provide the foundation for new products and services.

**Portal**

Portals such as Google, Bing, Yahoo, MSN, and AOL offer powerful Web search tools as well as an integrated package of content and services, such as news, e-mail, instant messaging, maps, calendars, shopping, music downloads, video streaming, and more, all in one place. Initially, portals were primarily “gateways” to the Internet. Today, however, the portal business model provides a destination site where users start their Web searching and linger to read news, find entertainment, meet other people, (and be exposed to advertising). Portals generate revenue primarily by attracting very large audiences, charging advertisers for ad placement, collecting referral fees for steering customers to other sites, and charging for premium services. In 2009, portals generated an estimated $36 billion in revenues. Although there are hundreds of portal/search engine sites, the top five sites (Google, Yahoo, MSN/Bing, AOL, and Ask.com) gather more than 95 percent of the Internet traffic because of their superior brand recognition (Nielsen Online, 2009).

**E-tailer**

Online retail stores, often called **e-tailers**, come in all sizes, from giant Amazon with 2009 revenues of more than $20 billion, to tiny local stores that have Web sites. E-tailers are similar to the typical bricks-and-mortar storefront, except that customers only need to connect to the Internet to check their inventory and place an order. Altogether online retail generated about $131 billion in revenues for 2009. The value proposition of e-tailers is to provide convenient, low-cost shopping 24/7, offering large selections and consumer choice. Some e-tailers, such as Walmart.com or Staples.com, referred to as “bricks-and-clicks,” are subsidiaries or divisions of existing physical stores and carry the same products. Others, however, operate only in the virtual world, without any ties to physical locations. Amazon.com, 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.

**Content Provider**

While e-commerce began as a retail product channel, it has increasingly turned into a global content channel. “Content” is defined broadly to include all forms of intellectual property. Intellectual property refers to all forms of human expression that can be put into a tangible medium such as text, CDs, DVDs, or stored on any digital (or other) media, including the Web. Content providers distribute information content, such as digital video, music, photos, text, and artwork, over the Web. The customer may pay to access the content, or revenue may be generated by selling advertising space.

Providers do not have to be the creators of the content (although sometimes they are like Disney.com), and are more likely to be Internet-based distributors of content produced and created by others. For example, Apple sells music tracks at its iTunes Store, but it does not create or commission new music.

The phenomenal popularity of iTunes and Apple’s iPod portable music player have inspired a new form of digital content delivery called podcasting. Podcasting is a method of publishing audio or video broadcasts via the Internet, allowing subscribing users to download audio or video files onto their personal computers or portable music players.

Estimates vary, but total download and subscription media revenues are somewhere between $4 billion and $8 billion annually. They are the fastest growing segment within e-commerce, growing at an estimated 20 percent annual rate (eMarketer, 2009).
**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 and travel services. The online transaction broker’s primary value propositions are savings of money and time, as well as providing an extraordinary inventory of financial products and travel packages, in a single location. Online stock brokers and travel booking services charge fees that are considerably less than traditional versions of these services.

**Market Creator**
Market creators build a digital environment in which buyers and sellers can meet, display products, search for products, and establish prices. The value proposition of online market creators is that they provide a platform where sellers can easily display their wares and where purchasers can buy directly from sellers. Online auction markets like eBay and Priceline are good examples of the market creator business model. Another example is Amazon’s Merchants platform (and similar programs at eBay) where merchants are allowed to set up stores on Amazon’s Web site and sell goods at fixed prices to consumers. This is reminiscent of open air markets where the market creator operates a facility (a town square) where merchants and consumers meet. Online market creators will generate about $14 billion in revenues for 2009.

**Service Provider**
While e-tailers sell products online, service providers offer services online. There’s been an explosion in online services. Web 2.0 applications, photo sharing, and online sites for data backup and storage all use a service provider business model. Software is no longer a physical product with a CD in a box, but increasingly software as a service (SaaS) that you subscribe to online rather than purchase from a retailer (see Chapter 4). Google has led the way in developing online software service applications such as Google Apps, Gmail, and online data storage services.

**Community Provider**
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 Facebook, MySpace, LinkedIn, and Twitter, online communities such as iVillage, and hundreds of other smaller, niche sites such as Doostang and Sportsvite, all offer users community building tools and services. Social networking sites have been the fastest growing Web sites in recent years, often doubling their audience size in a year. However, they are struggling to achieve profitability. The Interactive Session on Organizations and chapter-ending case study explore this topic.

**E-COMMERCE REVENUE MODELS**
A firm’s revenue model describes how the firm will earn revenue, generate profits, and produce a superior return on investment. Although there are many different e-commerce revenue models that have been developed, most companies rely on one, or some combination, of the following six revenue models: advertising, sales, subscription, free/freemium, transaction fee, and the affiliate model.

**Advertising Revenue Model**
In the advertising revenue model, a Web site generates revenue by attracting a large audience of visitors who can then be exposed to advertisements. The advertising model is the most widely used revenue model in e-commerce, and arguably, without advertising revenues the Web would be a vastly different experience from what it is now. Content on the Web—everything from news to videos and opinions—is “free” to visitors because advertisers pay
Twitter, the social networking site based on 140-character text messages, is the buzz social networking phenomenon of the year. Like all social networking sites, such as Facebook, MySpace, YouTube, Flickr, and others, Twitter provides a platform for users to express themselves by creating content and sharing it with their “followers,” who sign up to receive someone’s “tweets.” And like most social networking sites, Twitter faces the problem of how to make money. As of October 2009, Twitter has failed to generate revenue as its management ponders how best to exploit the buzz and user base it has created.

Twitter began as a Web-based version of popular text messaging services provided by cell phone carriers. Executives in a podcasting company called Odeo were searching for a new revenue-producing product or service. In March 2006 they created a stand-alone, private company called Twitter.

The basic idea was to marry short text messaging on cell phones with the Web and its ability to create social groups. You start by establishing a Twitter account online, and identifying the friends that you would like to receive your messages. By sending a text message called a “tweet” to a short code on your cell phone (40404), you can tell your friends what you are doing, your location, and whatever else you might want to say. You are limited to 140 characters, but there is no installation and no charge. This social network messaging service to keep buddies informed was a smash success.

Coming up with solid numbers for Twitter is not easy because the firm is not releasing any “official” figures. By September 2009, Twitter, according to some estimates, had around 20 million unique monthly users in the United States, and perhaps 50 million worldwide. Industry observers believe Twitter is the third largest social networking site behind Facebook and MySpace.

The number of individual tweets is also known only by the company. According to the company, by early 2007, Twitter had transmitted 20,000 tweets, which jumped to 60,000 tweets in a few months. During the Iranian rebellion in June 2009, there were reported to be over 200,000 tweets per hour worldwide. On the other hand, experts believe that 80 percent of tweets are generated by only 10 percent of users, and that the median number of tweet readers per tweet is 1 (most Tweeters tweet to one follower). Even more disturbing is that Twitter has a 60 percent churn rate: only 40 percent of users remain more than one month. Obviously, many users lose interest in learning about their friends’ break-

fast menu, and many feel “too connected” to their “friends,” who in fact may only be distant acquaintances, if that. On the other hand, celebrities such as Britney Spears have hundreds of thousands of “friends” who follow their activities, making Twitter a marvelous, free public relations tool. Twitter unfortunately does not make a cent on these activities.

The answer to these questions about unique users, numbers of tweets, and churn rate are critical to understanding the business value of Twitter as a firm. To date, Twitter has generated losses and has unknown revenues, but in February 2009, it raised a $35 million in a deal that valued the company at $255 million. The following September, Twitter announced it had raised $100 million in additional funding, from private equity firms, previous investors, and mutual fund giant T. Rowe Price, based on a company valuation of a staggering $1 billion!

So how can Twitter make money from its users, and their tweets? What’s their business model and how might it evolve over time? Twitter’s main asset is user attention and audience size (eyeballs per day). An equally important asset is the database of tweets that contains real-time, spontaneous comments, observations, and opinions of the audience, and the search engine that mines those tweets for patterns.

Yet another asset has emerged in the last year: Twitter is a powerful alternative media platform for the distribution of news, videos, and pictures. Once again, no one predicted that Twitter would be the first to report on terrorist attacks in Mumbai, the landing of a passenger jet in the Hudson River, or the Iranian rebellion in June 2009.

How can these assets be monetized? Twitter could ask users to pay a subscription fee, especially for premium services such as videos and music downloads. However, it may be too late for this idea because users have come to expect the service to be free. Twitter could sell display ads or text ads on its screens, something it is testing in Japan. But social media sites are known to be poor advertising venues with very low response rates, although this could change with better targeting. Twitter could charge advertisers to pay a fee for inserting messages into individual tweets. Message your friend to meet you in Times Square, and the message contains an ad for a nearby restaurant. Twitter could charge service providers such as doctors, dentists, lawyers, and hair salons for providing their customers with unexpected appointment availabilities.
Twitter’s most likely steady revenue source might be the intelligence embedded in its database of hundreds of millions of real-time tweets. Major firms such as Starbucks, Amazon, Intuit (makers of QuickBooks and the Mint.com site), and Dell have used Twitter to understand how their customers are reacting to products, services and Web sites, and then making corrections or changes in those services and products.

The company is coy about announcing its business model. In a nod to Apple’s iTunes and Amazon’s merchant services, Twitter has turned over its messaging capabilities and software platform to others, one of which is CoTweet.com, a company that organizes multiple Twitter exchanges for customers so they can be tracked more easily. Google is selling ad units based around a company’s last five tweets (ads are displayed to users who have created or viewed tweets about a company). Twitter is not charging for this service. In the meantime, observers wonder if Twitter is twittering away its assets.


CASE STUDY QUESTIONS

1. Based on your reading in this chapter, how would you characterize Twitter’s business model?
2. If Twitter is to have a revenue model, which of the revenue models described in this chapter would work?
3. What is the most important asset that Twitter has, and how could it monetize this asset?
4. What impact will a high customer churn rate have on Twitter’s potential advertising revenue?

MIS IN ACTION

1. Go to Twitter.com and enter a search on your favorite (or least favorite) car. Can you find the company’s official site? What else do you find? Describe the results and characterize the potential risks and rewards for companies that would like to advertise to Twitter’s audience.
2. How would you improve Twitter’s Web site to make it more friendly for large advertisers?
3. Teenagers are infrequent users of Twitter because they use their cell phones for texting, and most users are adults 18–34 years of age. Find five users of Twitter and ask them how long they have used the service, are they likely to continue using the service, and how would they feel about banner ads appearing on their Twitter Web screen and phone screens. Are loyal users of Twitter less likely (or more likely) to tolerate advertising on Twitter?
other products), LLBean.com, and Gap.com, all have sales revenue models. Content providers make money by charging for downloads of entire files such as music tracks (iTunes Store) or books or for downloading music and/or video streams (Hulu.com TV shows–see Chapter 3). Apple has pioneered and strengthened the acceptance of micropayments. **Micropayment systems** provide content providers with a cost-effective method for processing high volumes of very small monetary transactions (anywhere from $.25 to $5.00 per transaction). MyMISLab has a Learning Track with more detail on micropayment and other e-commerce payment systems.

**Subscription Revenue Model**
In the subscription revenue model, a Web site offering content or services charges a subscription fee for access to some or all of its offerings on an ongoing basis. Content providers often use this revenue model. 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. The *Wall Street Journal* has the largest online subscription newspaper with more than 1 million online subscribers. To be successful, the subscription model requires that the content be perceived as a having high added value, differentiated, and not readily 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 and Genealogy.com (genealogy research), Microsoft’s Xboxlive.com (video games), and Rhapsody.com (music).

**Free/Freemium Revenue Model**
In the **free/freemium** revenue model, firms offer basic services or content for free, while charging a premium for advanced or special features. For example, Google offers free applications, but charges for premium services. The Flickr photo-sharing service offers free basic services for sharing photos with friends and family, and also sells a $24.95 “premium” package that provides users unlimited storage, high-definition video storage and playback, and freedom from display advertising. The idea is to attract very large audiences with free services, and then to convert some of this audience to pay a subscription for premium services. One problem with this model is converting people from being “free loaders” into paying customers. “Free” can be a powerful model for losing money.

**Transaction Fee Revenue Model**
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 an item. E*Trade, an online stockbroker, receives transaction fees each time it executes a stock transaction on behalf of a customer. The transaction revenue model enjoys wide acceptance in part because the true cost of using the platform is not immediately apparent to the user.

**Affiliate Revenue Model**
In the **affiliate revenue model**, Web sites (called “affiliate Web sites) send visitors to other Web sites in return for a referral fee or percentage of the revenue from any resulting sales. For example, MyPoints makes money by connecting companies to potential customers by offering special deals to its members. When members take advantage of an offer and make a purchase, they earn “points” they can redeem for free products and services, and MyPoints receives a referral fee. Community feedback sites such as Epinions receive much of their revenue from steering potential customers to Web sites where they make a purchase. Amazon uses affiliates who steer business to the Amazon Web site by placing the Amazon logo on their blogs. Personal blogs may be involved in affiliate marketing. Some bloggers are paid directly by manufacturers, or receive free products, for speaking highly of products and providing links to sales channels.
WEB 2.0, SOCIAL NETWORKING AND THE WISDOM OF CROWDS

One of the fastest growing areas of e-commerce revenues are Web 2.0 online services, which we described in Chapter 6. The most popular Web 2.0 service is social networking, online meeting places where people can meet their friends and their friends’ friends. Every month over 80 million Internet users in the United States visit a social networking site like Facebook, MySpace, LinkedIn, and hundreds of others.

Social networking sites link people through their mutual business or personal connections, enabling them to mine their friends (and their friends’ friends) for sales leads, job-hunting tips, or new friends. MySpace, Facebook, and Friendster appeal to people who are primarily interested in extending their friendships, while LinkedIn focuses on job networking for professionals.

Social networking sites and online communities offer new possibilities for e-commerce. Networking sites like Facebook and MySpace sell banner, video, and text ads; sell user preference information to marketers; and sell products such as music, videos, and e-books. Corporations set up their own Facebook and MySpace profiles to interact with potential customers. For example, Procter & Gamble set up a MySpace profile page for Crest toothpaste soliciting “friends” for a fictional character called “Miss Irresistable.” Business firms can also “listen” to what social networkers are saying about their products, and obtain valuable feedback from consumers. At user-generated content sites like YouTube, high-quality video content is used to display advertising, and Hollywood studios have set up their own channels to market their products. The chapter-ending case study provides a detailed discussion of social networking on Facebook.

At social shopping sites like Kaboodle, ThisNext, and Stylehive you can swap shopping ideas with friends. Facebook offers this same service on a voluntary basis. Online communities are also ideal venues to employ viral marketing techniques. Online viral marketing is like traditional word-of-mouth marketing except that the word can spread across an online community at the speed of light, and go much further geographically than a small network of friends.

The Wisdom of Crowds

Creating sites where thousands, even millions, of people can interact offers business firms new ways to market and advertise, to discover who likes (or hates) their products. In a phenomenon called “the wisdom of crowds,” some argue that large numbers of people can make better decisions about a wide range of topics or products than a single person or even a small committee of experts (James Surowiecki, 2004).

Obviously this is not always the case, but it can happen in interesting ways. In marketing, the “wisdom of crowds” concept suggests that firms should consult with thousands of their customers first as a way of establishing a relationship with them, and second, to better understand how their products and services are used and appreciated (or rejected). Actively soliciting the comments of your customers builds trust and sends the message to your customers that you care what they are thinking, and that you need their advice.

Beyond merely soliciting advice, firms can be actively helped in solving some business problems using what is called crowdsourcing. For instance, in 2006, Netflix announced a contest in which it offered to pay $1 million to the person or team who comes up with a method for improving by 10 percent Netflix’s prediction of what movies customers would like as measured against their actual choices. By 2009, Netflix received 44,014 entries from 5,169 teams in 186 countries. The winning team improved a key part of Netflix’s business: a recommender system that recommends to its customers what new movies to order based on their personal past movie choices and the choices of millions of other customers who are like them (Howe, 2008).

Firms can also use the wisdom of crowds in the form of prediction markets. Prediction markets are established as peer-to-peer betting markets where participants make bets on specific outcomes of, say, quarterly sales of a new product, designs for new products, or political elections. The world’s largest commercial prediction market is Betfair, founded in 2000, where you bet for or against specific outcomes on football games, horse races, and
whether or not the Dow Jones will go up or down in a single day. Iowa Electronic Markets (IEM) is an academic market focused on elections. You can place bets on the outcome of local and national elections.

**E-COMMERCE MARKETING**

While e-commerce and the Internet have changed entire industries and enable new business models, no industry has been more affected than marketing and marketing communications. The Internet provides marketers with new ways of identifying and communicating with millions of potential customers at costs far lower than traditional media, including search engine marketing, data mining, recommender systems, and targeted e-mail. The Internet enables **long tail marketing**. Before the Internet, reaching a large audience was very expensive, and marketers had to focus on attracting the largest number of consumers with popular hit products, whether music, Hollywood movies, books, or cars. In contrast, the Internet allows marketers to inexpensively find potential customers for which demand is very low, people on the far ends of the bell (normal) curve. For instance, the Internet makes it possible to sell independent music profitably to very small audiences. There’s always some demand for almost any product. Put a string of such long tail sales together and you have a profitable business.

The Internet also provides new ways—often instantaneous and spontaneous—to gather information from customers, adjust product offerings, and increase customer value. Table 9.6 describes the leading marketing and advertising formats used in e-commerce.

Many e-commerce marketing firms use behavioral targeting techniques to increase the effectiveness of banner, rich media, and video ads. **Behavioral targeting** refers to tracking the click-streams (history of clicking behavior) of individuals on thousands of Web sites for the purpose of understanding their interests and intentions, and exposing them to advertisements which are uniquely suited to their behavior. Ultimately, this more precise understanding of the customer leads to more efficient marketing (the firm pays for ads only to those shoppers who are most interested in their products) and larger sales and revenues. Unfortunately, behavioral targeting of millions of Web users also leads to the invasion of personal privacy without user consent (see our discussion in Chapter 12).

Behavioral targeting takes place at two levels: at individual Web sites and on various advertising networks that track users across thousands of Web sites. All Web sites collect data on visitor browser activity and store it in a database. They have tools to record the site that users visited prior to coming to the Web site, where these users go when they leave that site, the type of operating system they use, browser information, and even some location data. They also record the specific pages visited on the particular site, the time spent on each page of the site, the types of pages visited, and what the visitors purchased (see Figure 9-3). Firms analyze this information about customer interests and behavior to develop precise profiles of existing and potential customers.

This information enables firms to understand how well their Web site is working, create unique personalized Web pages that display content or ads for products or services of special interest to each user, improve the customer’s experience, and create additional value through a better understanding of the shopper (see Figure 9-4). By using personalization technology to modify the Web pages presented to each customer, marketers achieve some of the benefits of using individual salespeople at dramatically lower costs. For instance, General Motors will show a Chevrolet banner ad to women emphasizing safety and utility, while men will receive different ads emphasizing power and ruggedness.

What if you are a large national advertising company with many different clients trying to reach millions of consumers? What if you were a large global manufacturer trying to reach potential consumers for your products? With millions of Web sites, working with each one would be impractical. Advertising networks solve this problem by creating a network of several thousand of the most popular Web sites visited by millions of people, tracking the behavior of these users across the entire network, building profiles of each user, and then selling these profiles to advertisers. Looking for young, single consumers, with college degrees, living in the Northeast, in the 18–34 age range who are interested purchasing a
Chapter 9: E-commerce: Digital Markets, Digital Goods

Table 9.6

<table>
<thead>
<tr>
<th>Marketing Format</th>
<th>2009 Revenue</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search engine</td>
<td>$11.95</td>
<td>Text ads targeted at precisely what the customer is looking for at the moment of shopping and purchasing. Sales oriented.</td>
</tr>
<tr>
<td>Display ads</td>
<td>$4.65</td>
<td>Banner ads (pop-ups and leave-behinds) with interactive features; increasingly behaviorally targeted to individual Web activity. Brand development and sales.</td>
</tr>
<tr>
<td>Classified</td>
<td>$2.67</td>
<td>Job, real estate, and services ads; interactive, rich media, and personalized to user searches. Sales and branding.</td>
</tr>
<tr>
<td>Affiliate and blog marketing</td>
<td>$1.76</td>
<td>Blog and Web site marketing steers customers to parent sites; interactive, personal, and often with video. Sales orientation.</td>
</tr>
<tr>
<td>Video</td>
<td>$1.05</td>
<td>Fastest growing format, engaging and entertaining; behaviorally targeted, interactive. Branding and sales.</td>
</tr>
<tr>
<td>E-mail</td>
<td>$.39</td>
<td>Effective, targeted marketing tool with interactive and rich media potential. Sales oriented.</td>
</tr>
<tr>
<td>Sponsorships</td>
<td>$.32</td>
<td>Online games, puzzle, contests, and coupon sites sponsored by firms to promote products. Sales orientation.</td>
</tr>
</tbody>
</table>

Figure 9-3

Web Site Visitor Tracking

E-commerce Web sites have tools to track a shopper’s every step through an online store. Close examination of customer behavior at a Web site selling women’s clothing shows what the store might learn at each step and what actions it could take to increase sales.

The shopper clicks on the home page. The store can tell that the shopper arrived from the Yahoo! portal at 2:30 PM (which might help determine staffing for customer service centers) and how long she lingered on the home page (which might indicate trouble navigating the site).

The shopper clicks on blouses, clicks to select a woman’s white blouse, then clicks to view the same item in pink. The shopper clicks to select this item in a size 10 in pink and clicks to place it in her shopping cart. This information can help the store determine which sizes and colors are most popular.

From the shopping cart page, the shopper clicks to close the browser to leave the Web site without purchasing the blouse. This action could indicate the shopper changed her mind or that she had a problem with the Web site’s checkout and payment process. Such behavior might signal that the Web site was not well designed.

European car? Not a problem. Advertising networks can identify and deliver hundreds of thousands of people who fit this profile to expose to ads for European cars as they move from one Web site to another. Estimates vary, but behaviorally targeted ads are ten times more likely to produce a consumer response than a randomly chosen banner or video ad (see Figure 9-5).
B2B E-COMMERCE: NEW EFFICIENCIES AND RELATIONSHIPS

The trade between business firms (business-to-business commerce or B2B) represents a huge marketplace. The total amount of B2B trade in the United States in 2009 is about $11.5 trillion, with B2B e-commerce (online B2B) contributing about $3.36 trillion of that amount (U.S. Census Bureau, 2009a, b; authors’ estimates). By 2013, B2B e-commerce should grow to about $4.75 trillion in the United States, assuming an average growth rate of about 9 percent. The process of conducting trade among business firms is complex and requires significant human intervention, and therefore, it consumes significant resources. Some firms estimate that each corporate purchase order for support products costs them, on average, at...
least $100 in administrative overhead. Administrative overhead includes processing paper, approving purchase decisions, spending time using the telephone and fax machines to search for products and arrange for purchases, arranging for shipping, and receiving the goods. Across the economy, this adds up to trillions of dollars annually being spent for procurement processes that could potentially be automated. If even just a portion of inter-firm trade were automated, and parts of the entire procurement process assisted by the Internet, then literally trillions of dollars might be released for more productive uses, consumer prices potentially would fall, productivity would increase, and the economic wealth of the nation would expand. This is the promise of B2B e-commerce. The challenge of B2B e-commerce is changing existing patterns and systems of procurement, and designing and implementing new Internet-based B2B solutions.

Business-to-business e-commerce refers to the commercial transactions that occur among business firms. Increasingly these transactions are flowing through a variety of different Internet-enabled mechanisms. About 80 percent of online B2B e-commerce is still based on proprietary systems for electronic data interchange (EDI). Electronic data interchange enables the computer-to-computer exchange between two organizations of standard transactions such as invoices, bills of lading, shipment schedules, or purchase orders. Transactions are automatically transmitted from one information system to another through a network, eliminating the printing and handling of paper at one end and the inputting of data at the other. Each major industry in the United States and much of the rest of the world has EDI standards that define the structure and information fields of electronic documents for that industry.

EDI originally automated the exchange of documents such as purchase orders, invoices, and shipping notices. Although some companies still use EDI for document automation, firms engaged in just-in-time inventory replenishment and continuous production use EDI as a system for continuous replenishment. Suppliers have online access to selected parts of the purchasing firm’s production and delivery schedules and automatically ship materials and goods to meet prespecified targets without intervention by firm purchasing agents (see Figure 9-6).

Although many organizations still use private networks for EDI, they are increasingly Web-enabled because Internet technology provides a much more flexible and low-cost platform for linking to other firms. Businesses are able to extend digital technology to a wider range of activities and broaden their circle of trading partners.

Take procurement, for example. Procurement involves not only purchasing goods and materials but also sourcing, negotiating with suppliers, paying for goods, and making delivery arrangements. Businesses can now use the Internet to locate the most low-cost supplier, search online catalogs of supplier products, negotiate with suppliers, place orders, make payments, and arrange transportation. They are not limited to partners linked by traditional EDI networks.

The Internet and Web technology enable businesses to create new electronic storefronts for selling to other businesses with multimedia graphic displays and interactive features similar to those for B2C commerce. Alternatively, businesses can use Internet technology to

![Figure 9-6](image)

**Figure 9-6**

**Electronic Data Interchange (EDI)**

Companies use EDI to automate transactions for B2B e-commerce and continuous inventory replenishment. Suppliers can automatically send data about shipments to purchasing firms. The purchasing firms can use EDI to provide production and inventory requirements and payment data to suppliers.
create extranets or electronic marketplaces for linking to other businesses for purchase and sale transactions.

**Private industrial networks** typically consist of a large firm using an extranet to link to its suppliers and other key business partners (see Figure 9-7). The network is owned by the buyer, and it permits the firm and designated suppliers, distributors, and other business partners to share product design and development, marketing, production scheduling, inventory management, and unstructured communication, including graphics and e-mail. Another term for a private industrial network is a **private exchange**.

An example is VW Group Supply, which links the Volkswagen Group and its suppliers. VW Group Supply handles 90 percent of all global purchasing for Volkswagen, including all automotive and parts components.

**Net marketplaces**, which are sometimes called e-hubs, provide a single, digital marketplace based on Internet technology for many different buyers and sellers (see Figure 9-8). They are industry owned or operate as independent intermediaries between buyers and sellers. Net marketplaces generate revenue from purchase and sale transac-
tions and other services provided to clients. Participants in Net marketplaces can establish prices through online negotiations, auctions, or requests for quotations, or they can use fixed prices.

There are many different types of Net marketplaces and ways of classifying them. Some Net marketplaces sell direct goods and some sell indirect goods. Direct goods are goods used in a production process, such as sheet steel for auto body production. Indirect goods are all other goods not directly involved in the production process, such as office supplies or products for maintenance and repair. Some Net marketplaces support contractual purchasing based on long-term relationships with designated suppliers, and others support short-term spot purchasing, where goods are purchased based on immediate needs, often from many different suppliers.

Some Net marketplaces serve vertical markets for specific industries, such as automobiles, telecommunications, or machine tools, whereas others serve horizontal markets for goods and services that can be found in many different industries, such as office equipment or transportation.

Exostar is an example of an industry-owned Net marketplace, focusing on long-term contract purchasing relationships and on providing common networks and computing platforms for reducing supply chain inefficiencies. This aerospace and defense industry-sponsored Net marketplace was founded jointly by BAE Systems, Boeing, Lockheed Martin, Raytheon, and Rolls-Royce plc to connect these companies to their suppliers and facilitate collaboration. More than 16,000 trading partners in the commercial, military, and government sectors use Exostar’s sourcing, e-procurement, and collaboration tools for both direct and indirect goods.

Exchanges are independently owned third-party Net marketplaces that connect thousands of suppliers and buyers for spot purchasing. Many exchanges provide vertical markets for a single industry, such as food, electronics, or industrial equipment, and they primarily deal with direct inputs. For example, Gotopaper enables a spot market for paper, board, and kraft among buyers and sellers in the paper industries from over 75 countries.

Exchanges proliferated during the early years of e-commerce, but many have failed. Suppliers were reluctant to participate because the exchanges encouraged competitive bidding that drove prices down and did not offer any long-term relationships with buyers or services to make lowering prices worthwhile. Many essential direct purchases are not conducted on a spot basis because they require contracts and consideration of issues such as delivery timing, customization, and quality of products.

9.3 The Mobile Digital Platform and Mobile E-commerce

Walk down the street in any major metropolitan area and count how many people are pecking away at their iPhones or BlackBerries. Ride the trains, fly the planes, and you’ll see your fellow travelers reading an online newspaper, watching a video on their phone, or reading a novel on their Kindle. In five years, the majority of Internet users in the United States will rely on mobile devices as their primary device for accessing the Internet. M-commerce has taken off.

In 2009, m-commerce represented less than 10 percent of all e-commerce, with about $5 billion in annual revenues generated by selling music, videos, ring tones, applications, movies, television, and location-based services like local restaurant locators and traffic updates. However, m-commerce is the fastest growing form of e-commerce, expanding at a rate of 50 percent or more per year, and is estimated to grow to $27 billion in 2013 (see Figure 9-9). In 2009, there were an estimated 3 billion cell phone subscribers worldwide, with over 600 million in China and 281 million in the United States (eMarketer, 2009).

M-COMMERCE SERVICES AND APPLICATIONS

The main areas of growth in mobile e-commerce are location-based services, about $134 million in revenue in 2009; software application sales at stores such as iTunes (about $3
billion); entertainment downloads of ringtones, music, video, and TV shows (about $1 billion); mobile display advertising ($760 million); direct shopping services such as Slifter ($200 million); and e-book sales ($100 million).

M-commerce applications have taken off for services that are time-critical, that appeal to people on the move, or that accomplish a task more efficiently than other methods. They are especially popular in Europe, Japan, South Korea, and other countries with strong wireless broadband infrastructures. The following sections describe some examples.

Location-Based Services
Wikitude.me provides a special kind of browser for smartphones equipped with a built-in global positioning system (GPS) and compass that can identify your precise location and where the phone is pointed. Using information from over 800,000 points of interest available on Wikipedia, plus thousands of other local sites, the browser overlays information about points of interest you are viewing, and displays that information on your smartphone screen, superimposed on a map or photograph that you just snapped. For example, users can point their smartphone cameras towards mountains from a tour bus and see the names and heights of the mountains displayed on the screen. Lost in a European medieval city, or downtown Los Angeles? Open up the Wikitude browser, point your camera at a building, and then find the address and other interesting details. Wikitude.me also allows users to geotag the world around them, and then submit the tags to Wikitude in order to share content with other users.

Banking and Financial Services
Banks and credit card companies are rolling out services that let customers manage their accounts from their mobile devices. JPMorgan Chase and Bank of America customers can use their cell phones to check account balances, transfer funds, and pay bills.

Wireless Advertising
Although the mobile advertising market is currently small ($760 million), it is rapidly growing (up 17 percent from last year and expected to grow to over $3.3 billion by 2013), as more and more companies seek ways to exploit new databases of location-specific information. For example, in May 2009, Alcatel-Lucent announced a new service to be managed by 1020 Placecast that will identify cell phone users within a specified distance of an advertiser’s nearest outlet and notify them about the outlet’s address and phone number, perhaps including a link to a coupon or other promotion. 1020 Placecast’s clients include Hyatt, FedEx, and Avis Rent A Car.

Burger King and Subaru have recently run trial campaigns using Useful Networks’ Store Finder application that allowed users to click a mobile banner ad to find the nearest
store location. The trial showed that the location-enabled campaign significantly increased Store Finder conversion rates compared to users who had to manually enter zip codes to find locations.

Loopt is a free social networking application that allows you to share your status and track the location of friends via smartphones such as the iPhone, BlackBerry, and over 100 other mobile devices. Loopt has more than 1 million users. Loopt doesn’t sell information to advertisers, but does post ads based on user location. Loopt’s target is to deal with advertisers at the walking level (within 200 to 250 meters).

Yahoo! displays ads on its mobile home page for companies such as Pepsi, Procter & Gamble, Hilton, Nissan, and Intel. Google is displaying ads linked to cell phone searches by users of the mobile version of its search engine, while Microsoft offers banner and text advertising on its MSN Mobile portal in the United States. Ads are starting to be embedded in downloadable applications such as games and videos.

Games and Entertainment
Cell phones are quickly turning into portable entertainment platforms. Mobile phone services offer downloadable digital games, music, and ringtones. More and more handset models combine the features of a cell phone and a portable music player.

Users of broadband services from the major wireless vendors can download on-demand video clips, news clips, and weather reports. MobiTV, offered by Sprint and AT&T Wireless, features live TV programs, including MSNBC and Fox Sports. Film companies are starting to produce short films explicitly designed to play on mobile phones. User-generated content is also appearing in mobile form. Facebook, MySpace, YouTube, and other social networking sites have versions for mobile devices.

9.4 Building an E-commerce Web Site

Building a successful e-commerce site requires a keen understanding of business, technology, and social issues, as well as a systematic approach. A complete treatment of the topic is beyond the scope of this text, and students should consult books devoted to just this topic (Laudon and Traver, 2010). The two most important management challenges in building a successful e-commerce site are (1) developing a clear understanding of your business objectives and (2) knowing how to choose the right technology to achieve those objectives.

PIECES OF THE SITE-BUILDING PUZZLE

Let’s assume you are a manager for a medium-sized, industrial parts firm of around 10,000 employees worldwide, operating in eight countries in Europe, Asia, and North America. Senior management has given you a budget of $1 million to build an e-commerce site within one year. The purpose of this site will be to sell and service the firm’s 20,000 customers, who are mostly small machine and metal fabricating shops around the world. Where do you start?

First, you must be aware of the main areas where you will need to make decisions. On the organizational and human resources fronts, you will have to bring together a team of individuals who possess the skill sets needed to build and manage a successful e-commerce site. This team will make the key decisions about technology, site design, and the social and information policies that will be applied at your site. The entire site development effort must be closely managed if you hope to avoid the disasters that have occurred at some firms.

You will also need to make decisions about your site’s hardware, software, and telecommunications infrastructure. The demands of your customers should drive your choices of technology. Your customers will want technology that enables them to find what they want easily, view the product, purchase the product, and then receive the product from your warehouses quickly. You will also have to carefully consider your site’s design. Once you have identified the key decision areas, you will need to think about a plan for the project.
BUSINESS OBJECTIVES, SYSTEM FUNCTIONALITY, AND INFORMATION REQUIREMENTS

Planning needs to answer the question, “What do we want the e-commerce site to do for our business?” The key lesson to be learned here is to let the business decisions drive the technology, not the reverse. This will ensure that your technology platform is aligned with your business. We will assume here that you have identified a business strategy and chosen a business model to achieve your strategic objectives. (Review Chapter 3.) But how do you translate your strategies, business models, and ideas into a working e-commerce site?

Your planning should identify the specific business objectives for your site, and then develop a list of system functionalities and information requirements. Business objectives are simply capabilities you want your site to have. System functionalities are types of information systems capabilities you will need to achieve your business objectives. The information requirements for a system are the information elements that the system must produce in order to achieve the business objectives.

Table 9.7 describes some basic business objectives, system functionalities, and information requirements for a typical e-commerce site. The objectives must be translated into a description of system functionalities and ultimately into a set of precise information requirements. The specific information requirements for a system typically are defined in much greater detail than Table 9.7 indicates (see Chapter 11). The business objectives of an e-commerce site are similar to those of a physical retail store, but they must be provided entirely in digital form, twenty-four hours a day, seven days a week.

<table>
<thead>
<tr>
<th>Business Objective</th>
<th>System Functionality</th>
<th>Information Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display goods</td>
<td>Digital catalog</td>
<td>Dynamic text and graphics catalog</td>
</tr>
<tr>
<td>Provide product information (content)</td>
<td>Product database</td>
<td>Product description, stocking numbers, inventory levels</td>
</tr>
<tr>
<td>Personalize/customize product</td>
<td>Customer on-site tracking</td>
<td>Site log for every customer visit; data mining capability to identify common customer paths and appropriate responses</td>
</tr>
<tr>
<td>Execute a transaction payment</td>
<td>Shopping cart/payment system</td>
<td>Secure credit card clearing; multiple options</td>
</tr>
<tr>
<td>Accumulate customer information</td>
<td>Customer database</td>
<td>Name, address, phone, and e-mail for all customers; online customer registration</td>
</tr>
<tr>
<td>Provide after-sale customer support</td>
<td>Sales database</td>
<td>Customer ID, product, date, payment, shipment date</td>
</tr>
<tr>
<td>Coordinate marketing/advertising</td>
<td>Ad server, e-mail server, e-mail, campaign manager, ad banner manager</td>
<td>Site behavior log of prospects and customers linked to e-mail and banner ad campaigns</td>
</tr>
<tr>
<td>Understand marketing effectiveness</td>
<td>Site tracking and reporting system</td>
<td>Number of unique visitors, pages visited, products purchased, identified by marketing campaign</td>
</tr>
<tr>
<td>Provide production and supplier links</td>
<td>Inventory management system</td>
<td>Product and inventory levels, supplier ID and contact, order quantity data by product</td>
</tr>
</tbody>
</table>

TABLE 9.7
System Analysis: Business Objectives, System Functionality, and Information Requirements for a Typical E-commerce Site
BUILDING THE WEB SITE: IN-HOUSE VERSUS OUTSOURCING

There are many choices for building and maintaining Web sites. Much depends on how much money you are willing to spend. Choices range from outsourcing the entire Web site development to an external vendor to building everything yourself (in-house). You also have a second decision to make: will you host (operate) the site on your firm’s own servers or will you outsource the hosting to a Web host provider? There are some vendors who will design, build, and host your site, while others will either build or host (but not both). Figure 9-10 illustrates the alternatives.

The Building Decision

If you elect to build your own site, there are a range of options. Unless you are fairly skilled, you should use a pre-built template to create the Web site. For example, Yahoo Merchant Solutions, Amazon Stores, and eBay all provide templates that merely require you to input text, graphics, and other data, as well as the infrastructure to run the Web site once it has been created. This is the least costly and simplest solution but you will be limited to the “look and feel” and functionality provided by the template and infrastructure.

If you have some experience with computers, you might decide to build the site yourself. There is a broad variety of tools, ranging from those that help you build everything truly “from scratch,” such as Adobe Dreamweaver, Adobe InDesign, and Microsoft Expression, to top-of-the-line prepackaged site-building tools that can create sophisticated sites customized to your needs.

The decision to build a Web site on your own has a number of risks. Given the complexity of features such as shopping carts, credit card authentication and processing, inventory management, and order processing, development costs are high, as are the risks of doing a poor job. You will be reinventing what other specialized firms have already built, and your staff may face a long, difficult learning curve, delaying your entry to market. Your efforts could fail. On the positive side, you may be able to build a site that does exactly what you want, and develop the in-house knowledge to revise the site rapidly if necessitated by a changing business environment.

If you choose more expensive site-building packages, you will be purchasing state-of-the-art software that is well tested. You could get to market sooner. However, to make a sound decision, you will have to evaluate many different software packages and this can take a long time. You may have to modify the packages to fit your business needs and perhaps hire additional outside consultants to do the modifications. Costs rise rapidly as modifications mount. (We discuss this problem in greater detail in Chapter 11.) A $4,000 package can easily become a $40,000 to $60,000 development project.

In the past, bricks-and-mortar retailers typically designed their e-commerce sites themselves (because they already had the skilled staff and IT infrastructure in place to do this). Today, however, larger retailers rely heavily on external vendors to provide sophisticated Web site capabilities, while also maintaining a substantial internal staff. Medium-size start-ups will often purchase a sophisticated package and then modify it to suit their needs. Very small mom-and-pop firms seeking simple storefronts will use templates.

Figure 9-10
Choices in Building and Hosting Web Sites
You have a number of alternatives to consider when building and hosting an e-commerce site.
The Hosting Decision
Now let’s look at the hosting decision. Most businesses choose to outsource hosting and pay a company to host their Web site, which means that the hosting company is responsible for ensuring the site is “live” or accessible, twenty-four hours a day. By agreeing to a monthly fee, the business need not concern itself with technical aspects of setting up and maintaining a Web server, telecommunications links, or specialized staffing.

With a co-location agreement, your firm purchases or leases a Web server (and has total control over its operation) but locates the server in a vendor’s physical facility. The vendor maintains the facility, communications lines, and the machinery. In this case, you do not purchase the server, but rent its capabilities on a monthly basis. There is an extraordinary range of prices for co-hosting, ranging from $4.95 a month, to several hundred thousands of dollars per month depending on the size of the Web site, bandwidth, storage, and support requirements. Very large providers (such as IBM and Qwest) achieve large economies of scale by establishing huge “server farms” located strategically around the country and the globe. What this means is that the cost of pure hosting has fallen as fast as the fall in server prices, dropping about 50 percent every year.

Web Site Budgets
Simple Web sites can be built and hosted with a first-year cost of $5,000 or less. The Web sites of large firms with high levels of interactivity and linkage to corporate systems can cost several hundred thousand to millions of dollars a year to create and operate. For instance, in September 2006, Bluefly, which sells women’s and men’s designer clothes online, embarked on the process of developing an improved version of its Web site based on software from Art Technology Group (ATG). It launched the new site in August 2008. To date, it has invested over $5.3 million in connection with the redevelopment of the Web site (Bluefly, Inc., 2009).

Figure 9-11 provides some idea of the relative size of various Web site cost components. In general, the cost of hardware, software, and telecommunications for building and operating a Web site has fallen dramatically (by over 50 percent) since 2000, making it possible for very small entrepreneurs to create fairly sophisticated sites. At the same time, the costs of system maintenance and content creation have risen to make up more than half of typical Web site budgets. Providing content and smooth 24/7 operations are both very labor-intensive.

9.5 Hands-On MIS Projects
The projects in this section give you hands-on experience developing e-commerce strategies for businesses, using spreadsheet software to research the profitability of an e-commerce company, and using Web tools to research and evaluate e-commerce hosting services.
MANAGEMENT DECISION PROBLEMS

1. Columbiana is a small, independent island in the Caribbean. It wants to develop its tourist industry and attract more visitors. The island has many historical buildings, forts, and other sites, along with rain forests and striking mountains. A few first-class hotels and several dozen less-expensive accommodations can be found along its beautiful white sand beaches. The major airlines have regular flights to Columbiana, as do several small airlines. Columbiana’s government wants to increase tourism and develop new markets for the country’s tropical agricultural products. How can a Web presence help? What Internet business model would be appropriate? What functions should the Web site perform?

2. Explore the Web sites of the following companies: Blue Nile, J.Crew, Circuit City, Black&Decker, Peet’s Coffee & Tea, and Priceline. Determine which of these Web sites would benefit most from adding a company-sponsored blog to the Web site. List the business benefits of the blog. Specify the intended audience for the blog. Decide who in the company should author the blog, and select some topics for the blog.

IMPROVING DECISION MAKING: USING SPREADSHEET SOFTWARE TO ANALYZE A DOT-COM BUSINESS

Software skills: Spreadsheet downloading, formatting, and formulas
Business skills: Financial statement analysis

Publicly traded companies, including those specializing in e-commerce, are required to file financial data with the U.S. Securities and Exchange Commission. By analyzing this information, you can determine the profitability of an e-commerce company and the viability of its business model.

Pick one e-commerce company on the Internet, for example, Ashford, Buy.com, Yahoo, or Priceline. Study the Web pages that describe the company and explain its purpose and structure. Use the Web to find articles that comment on the company. Then visit the Securities and Exchange Commission’s Web site at www.sec.gov and select Filings & Forms to access the company’s 10-K (annual report) form showing income statements and balance sheets. Select only the sections of the 10-K form containing the desired portions of financial statements that you need to examine, and download them into your spreadsheet. (MyMISLab provides more detailed instructions on how to download this 10-K data into a spreadsheet.) Create simplified spreadsheets of the company’s balance sheets and income statements for the past three years.

• Is the company a dot-com success, borderline business, or failure? What information dictates the basis of your decision? Why? When answering these questions, pay special attention to the company’s three-year trends in revenues, costs of sales, gross margins, operating expenses, and net margins.
• Prepare an overhead presentation (with a minimum of five slides), including appropriate spreadsheets or charts, and present your work to your professor and classmates.

ACHIEVING OPERATIONAL EXCELLENCE: EVALUATING E-COMMERCE HOSTING SERVICES

Software skills: Web browser software
Business skills: Evaluating e-commerce hosting services

This project will help develop your Internet skills in commercial services for hosting an e-commerce site for a small start-up company.

You would like to set up a Web site to sell towels, linens, pottery, and tableware from Portugal and are examining services for hosting small business Internet storefronts. Your Web site should be able to take secure credit card payments and to calculate shipping costs.
What are the unique features of e-commerce, digital markets, and digital goods?

E-commerce involves digitally enabled commercial transactions between and among organizations and individuals. Unique features of e-commerce technology include ubiquity, global reach, universal technology standards, richness, interactivity, information density, capabilities for personalization and customization, and social technology.

Digital markets are said to be more “transparent” than traditional markets, with reduced information asymmetry, search costs, transaction costs, and menu costs, along with the ability to change prices dynamically based on market conditions. Digital goods, such as music, video, software, and books, can be delivered over a digital network. Once a digital product has been produced, the cost of delivering that product digitally is extremely low.

What are the principal e-commerce business and revenue models?
The principal e-commerce business models are e-tailers, transaction brokers, market creators, content providers, community providers, service providers, and portals. The principal e-commerce revenue models are advertising, sales, subscription, free/freemium, transaction fee, and affiliate.

How has e-commerce transformed marketing?
The Internet provides marketers with new ways of identifying and communicating with millions of potential customers at costs far lower than traditional media. Crowdsourcing utilizing the “wisdom of crowds” helps companies learn from customers in order to improve product offerings and increase customer value. Behavioral targeting techniques increase the effectiveness of banner, rich media, and video ads.

How has e-commerce affected business-to-business transactions?
B2B e-commerce generates efficiencies by enabling companies to locate suppliers, solicit bids, place orders, and track shipments in transit electronically. Net marketplaces provide a single, digital marketplace for many buyers and sellers. Private industrial networks link a firm with its suppliers and other strategic business partners to develop highly efficient and responsive supply chains.
What is the role of m-commerce in business, and what are the most important m-commerce applications? M-commerce is especially well-suited for location-based applications, such as finding local hotels and restaurants, monitoring local traffic and weather, and providing personalized location-based marketing. Mobile phones and handhelds are being used for mobile bill payment, banking, securities trading, transportation schedule updates, and downloads of digital content, such as music, games, and video clips. M-commerce requires wireless portals and special digital payment systems that can handle micropayments.

What issues must be addressed when building an e-commerce Web site? Building a successful e-commerce site requires a clear understanding of the business objectives to be achieved by the site and selection of the right technology to achieve those objectives. E-commerce sites can be built and hosted in-house or partially or fully outsourced to external service providers.

Key Terms

- Affiliate revenue model, 320
- Behavioral marketing, 322
- Business-to-business (B2B) electronic commerce, 315
- Business-to-consumer (B2C) electronic commerce, 315
- Co-location, 332
- Community providers, 317
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- Social shopping, 321
- Transaction costs, 308
- Transaction fee revenue model, 320
- Wisdom of crowds, 321

Review Questions

1. What are the unique features of e-commerce, digital markets, and digital goods?
   - Name and describe four business trends and three technology trends shaping e-commerce today.
   - List and describe the eight unique features of e-commerce.
   - Define a digital market and digital goods and describe their distinguishing features.

2. What are the principal e-commerce business and revenue models?
   - Name and describe the principal e-commerce business models.
   - Name and describe the e-commerce revenue models.

3. How has e-commerce transformed marketing?
   - Explain how social networking and the “wisdom of crowds” help companies improve their marketing.
   - Define behavioral targeting and explain how it works at individual Web sites and on advertising networks.
4. How has e-commerce affected business-to-business transactions?
   - Explain how Internet technology supports business-to-business electronic commerce.
   - Define and describe Net marketplaces and explain how they differ from private industrial networks (private exchanges).

5. What is the role of m-commerce in business, and what are the most important m-commerce applications?
   - List and describe important types of m-commerce services and applications.
   - Describe some of the barriers to m-commerce.

6. What issues must be addressed when building an e-commerce Web site?
   - List and describe each of the factors that go into the building of an e-commerce Web site.
   - List and describe four business objectives, four system functionalities, and four information requirements of a typical e-commerce Web site.
   - List and describe each of the options for building and hosting e-commerce Web sites.

Discussion Questions

1. How does the Internet change consumer and supplier relationships?
2. The Internet may not make corporations obsolete, but the corporations will have to change their business models. Do you agree? Why or why not?

Video Cases

Video Cases and Instructional Videos illustrating some of the concepts in this chapter are available. Contact your instructor to access these videos.

Collaboration and Teamwork

Performing a Competitive Analysis of E-commerce Sites

Form a group with three or four of your classmates. Select two businesses that are competitors in the same industry and that use their Web sites for electronic commerce. Visit these Web sites. You might compare, for example, the Web sites for iTunes and Napster, Amazon.com and BarnesandNoble.com, or E*Trade and Scottrade. Prepare an evaluation of each business’s Web site in terms of its functions, user friendliness, and ability to support the company’s business strategy. Which Web site does a better job? Why? Can you make some recommendations to improve these Web sites? If possible, use Google Sites to post links to Web pages, team communication announcements, and work assignments; to brainstorm; and to work collaboratively on project documents. Try to use Google Docs to develop a presentation of your findings for the class.
Facebook is the largest social networking site in the world and a pioneer of the social networking industry. Founded in 2004 by Mark Zuckerberg, the site had over 300 million worldwide users by the fall of 2009. Facebook allows users to create a profile and join various types of self-contained networks, including college-wide, workplace, and regional networks. The site includes a wide array of tools that allow users to connect and interact with other users, including messaging, groups, photo-sharing, and user-created applications.

Facebook was originally open only to a small handful of colleges, but the site has grown explosively since it opened its doors to all college students and eventually the general public. Facebook is now one of the most recognizable sites on the Web. Compared to its biggest rival, MySpace, Facebook’s interface is simple and clean, and tends to attract those looking for a crisp, more structured social networking environment. With MySpace fading from view in the rearview mirror, Twitter has emerged as the most viable future challenger to Facebook’s social networking dominance. But the company has taken many steps to fend off Twitter and other competitors as it continues its quest for dominance on the Web, not to mention profitability.

Facebook represents a unique opportunity for advertisers to reach highly targeted audiences based on their demographic information, hobbies, personal preferences, and other narrowly specified criteria in a comfortable and engaging environment. Businesses can place advertisements that are fully integrated into primary features of the site, such as the News Feed, a continually updating list of news stories about members’ friends’ activities on Facebook. Firms and individuals also can create Facebook pages for viewers to learn more about and interact with them. For example, a restaurant can advertise by having Facebook place items in the News Feeds of its customers indicating that those people ate there recently. Blockbuster had recent rentals in the News Feeds of its customers indicating that those people recently rented a movie. Sony Pictures and reviews of its movies appearing in similar fashion.

Many companies, including eBay, Sony Pictures, The New York Times, and Verizon maintain Facebook pages where users can learn more about these companies’ products and services.

For advertisers, Facebook represents a gold mine of opportunity because of the information the site has gathered and because of the richness of the social networking environment. The site has amassed a huge audience. It’s also an extremely “sticky” site. According to comScore, the typical Facebook user spends an average of 169 minutes per month there, compared to 13 minutes per month at Google News.

Despite these advantages, Facebook’s path to profitability has not been smooth. It’s a very expensive site to maintain. Users upload more than 2 billion photos and 14 million videos each month and share more than 2 billion pieces of content, such as news stories, photos, and blog posts each week. Maintaining and transmitting such vast amounts of data requires huge expenditures for servers and networking. Facebook’s traffic continues to rise at a healthy rate, and the company’s sales reached about $265 million in 2008, but the company continues to spend more money than it earns.

Attempts to sell online ads on Facebook and other social networking sites have not been successful. Banner ads sell for as little as 15 cents per 1,000 clicks, compared to $8 per 1,000 clicks on a targeted portal such as Yahoo! Auto because Facebook members largely ignore them. More than 70 percent of Facebook users are outside the United States, and much less likely to make online purchases. Social networkers don’t like banner ads interfering with their banter.

The company has also encountered more than its fair share of controversy, mostly concerning its handling and usage of the extensive information it collects from its users. Though users contribute most of their information to Facebook willingly, the privacy and user controls over the information granted to Facebook are the biggest concerns most users have with the site.

To truly capitalize on the massive audience and immersive environment of the site, Facebook needs to innovate and find new ways to grow revenue that do not alienate the very users that the company is depending on to spur its growth. The personal information collected on the site represents a mother lode to advertisers, but one that will remain largely untapped if Facebook users do not feel comfortable enough or have sufficient incentive to share it.

Facebook’s dilemma is finding a way to turn a profit and increase revenues using the information its users voluntarily provide without violating privacy (and creating a firestorm of user protests). Thus far, its attempts to do so have not been successful. In fact, Facebook is a prime example of a senior management that just didn’t get it when it comes to members’ sense of their privacy.

In December 2007, Facebook CEO Mark Zuckerberg announced the Beacon Program, sponsored by over 40 large firms, that would track what Facebook members purchased at their corporate sites, send the information...
to Facebook, who would then share that information with their friends without asking permission. In a few days, hundreds of thousands of members had organized a fierce resistance to the program. Management then declared that members could opt-out of the program and turn it off completely. Coca-Cola withdrew from sponsorship because it thought the program was an opt-in program only. Other corporate sponsors started pulling out from the program, as member resistance mounted. In 2009, Beacon still exists, but keeps a lower profile. Many open source programs exist on the Internet to block Beacon, and the Firefox Web browser has a Beacon Blocker add-on to prevent corporate sites from sending any information to Facebook.

In a similar gaffe, in February 2009, Facebook sought to change its information retention and collection policy (Terms of Service), granting Facebook nearly unlimited data collection and control over user-generated information forever, without redress. If you were a photographer and shared your photos with your friends on Facebook, you would lose your ownership of the content under the new policy. Management acted without warning, provided no opportunity for public comment, and applied the new policy to personal information that had been collected under the old policy. Over 100,000 people joined various blog sites and privacy groups to protest, based on the belief that their information belonged to them, not Facebook. Within days the firm retreated to the old policy, and set up user forums to discuss the Terms of Service and user attitudes about personal information.

In the meantime, however, millions of people on Facebook continue to use third-party quiz applications (such as “Which Cocktail Best Suits Your Personality?”) without realizing the extent to which developers of the quizzes and other applications have access to personal information. Facebook’s default privacy settings allow nearly unfettered access to a user’s profile information. Only “sensitive information” such as contact information is not available.

Facebook has also come under fire for its handling of the personal information of people who attempt to remove their profiles from the site. Facebook offers users the ability to deactivate their accounts, but the company’s servers maintain copies of the information contained in those accounts indefinitely. The company’s reasoning for this is that reactivating accounts is far easier if Facebook retains copies of profile content and other personal information. Users that attempted to delete their accounts were met with resistance and often required outside assistance from watchdog groups. One user spent two months attempting to delete his profile unsuccessfully while still receiving updates and messages through the site.

In August 2009, Facebook announced a simplification of its privacy policy in response to a Canadian ruling that the site was unlawfully retaining information from deleted accounts. Facebook will now require third-party application developers to conform to a more rigid set of rules regarding the use of users’ information, and will reach out to users to better communicate its simplified privacy options. Users will now easily be able to choose between account deletion and account deactivation.

Currently, one of Facebook’s most promising prospects to become profitable involves the development of applications for use on Facebook Platform. Facebook Platform, launched in May 2007, opened up the site to serve as a “platform” for applications that are independently developed by third parties. These applications consist of games, plug-in features for user profiles, and other programs, which are fully integrated with the Facebook site.

Facebook Platform makes Facebook’s environment even more engaging, and gives developers unparalleled exposure for their applications. There are currently more than 350,000 applications on the Facebook Platform. A small percentage of these applications have turned into viable businesses. Companies attracting large numbers of users to their applications on Facebook are able to sell goods, services, or advertising. All of these applications earn advertising revenue.

It’s currently unclear whether Facebook will generate significant revenue from these applications. Some believe that Facebook applications are “the next big thing” and that traditional advertisers will gravitate towards Facebook to reach highly targeted audiences with their applications. On the flip side, others believe Facebook’s own popularity will injure its chances to attract advertisers to its site, claiming that the engaging and immersive environment that draws visitors to the site makes users less likely to click on ads. Skeptics also believe that the current application system, where applications tend to support one another via advertising through other applications without the aid of extensive external advertising, is an unsustainable model over the long term. So far, only 250 Facebook applications have attracted more than 1 million users per month, and 60 percent failed to attract even 100 daily users.

Twitter, one of Facebook’s largest rivals, experienced explosive growth in 2009. Eager to maintain its dominance in the marketplace, Facebook wasted no time in making several moves in response. Facebook’s purchase of FriendFeed and its rollout of the Facebook Lite variant suggest its desire to offer an alternative to Twitter’s pared-down design.

FriendFeed allows users to aggregate all of the content from the social media sites they belong to (Facebook and Twitter included) in one central location. Industry analysts have described FriendFeed’s user base as most
popular among “uber social geeks,” but Facebook is more interested in incorporating the technology behind FriendFeed with their own site.

More specifically, Facebook sees opportunities to harness FriendFeed’s aggregation technology to develop a richer, more developed internal search engine. By organizing personal information, status updates, and other Facebook activity into a user friendly format, users will more easily be able to search for anything or anyone they want on Facebook. What’s unclear is the extent to which that information will be available outside the “walled garden” of Facebook—for example, to advertisers.

Facebook Lite is a stripped-down, simplified version of the richer Facebook interface. Only the basic features of the site are offered: making comments, viewing photos, and accepting friend requests. Facebook Lite was intended for users in countries without widespread access to broadband Internet connections, and the company hopes that this option will help it continue its growth into emerging Internet marketplaces, but it’s probably no coincidence that its design looks much like Twitter’s.

Given that Facebook’s growth outstripped Twitter’s in the month prior to these moves, it looks like the reigning social media champion is poised to retain its edge. But Facebook’s goals are even loftier: The site hopes to outstrip Microsoft, Google, and other tech giants as a portal for sharing information seamlessly throughout the globe. The company still has a ways to go before it should be grouped with the other titans of their industry.

In 2007, Microsoft purchased a small stake in Facebook, buying 1.6 percent of the company for $246 million. That investment put Facebook’s valuation at approximately $15 billion. Since then, other valuations have been as low as $3.7 billion or as large as $10 billion, representing the uncertainty surrounding Facebook’s eventual profitability. The precipitous drop in valuation suggests that investors lack confidence that Facebook will be as profitable as was initially expected. In many ways, users’ insistence on privacy has been the major stumbling block.

The initial furor and subsequent acceptance of the News Feed feature shows that Facebook users’ stances on their privacy may be subject to change or persuasion, and many users may not even be aware or care about the dissemination of their personal information. Even if they did, the benefits of being a part of Facebook, thanks to its large audience and wealth of features and content, may still outweigh the reservations its users have regarding their privacy. But it appears that enough Facebook users are concerned and aware of their privacy to prevent services as invasive as Beacon’s initial incarnation from becoming realities.


Case Study Questions

1. What concepts in this chapter are illustrated in this case?
2. What is the role of e-commerce and Web 2.0 technologies in Facebook’s widespread popularity?
3. Describe the weaknesses of Facebook’s privacy policies and features. What people, organization, and technology factors have contributed to those weaknesses?
4. Does Facebook have a viable business model? Explain your answer.
5. If you were responsible for coordinating Facebook’s advertising, how would you balance the desire to become increasingly profitable with the need to protect the privacy of your users?