CHAPTER

10 E-commerce: Digital Markets, Digital Goods

LEARNING OBJECTIVES

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

10-1 What are the unique features of e-commerce, digital markets, and digital goods?

10-2 What are the principal e-commerce business and revenue models?

10-3 How has e-commerce transformed marketing?

10-4 How has e-commerce affected business-to-business transactions?

10-5 What is the role of m-commerce in business, and what are the most important m-commerce applications?

10-6 What issues must be addressed when building an e-commerce presence?

10-7 How will MIS help my career?

CHAPTER CASES

E-commerce Comes to the Dashboard: The Battle for the "Fourth Screen"

Deliveroo: Global Food Delivery App

Engaging "Socially" with Customers

An iDEAL Solution to the Single Online EU Market

VIDEO CASES

Walmart Takes On Amazon: A Battle of IT and Management Systems

Groupon: Deals Galore

Etsy: A Marketplace and Community

MyLab MIS

Discussion Questions: 10-7, 10-8, 10-9; **Hands-On MIS Projects:** 10-10, 10-11, 10-12, 10-13; **eText with Conceptual Animations**

E-commerce Comes to the Dashboard: The Battle for the "Fourth Screen"

Businesses are always on the lookout for more ways to attract and sell to customers. Now they're zeroing in on your car's dashboard. The average American driver spends 51 minutes per day in a car, creating another opportunity to reach a captive audience. After television, computers, and mobile phones, car dashboards are emerging as the "fourth screen" for attracting consumer eyeballs.

Opportunities abound. Local doctors, restaurants, and other services could target ads based on typical driving routes. Drivers could order and pay for coffee or gasoline on their dashboard screens. Insurance companies monitoring driving patterns could offer lower rates to cautious drivers. Auto makers themselves could use data generated by a car's sensors to identify parts that need replacement and offer coupons and deals for repair services. According to McKinsey & Co. consultants, dashboard-based products and services could generate as much as $750 billion in new revenue by 2030.

Auto makers are counting on what is displayed on car dashboards to build closer relationships with customers. Alphabet's Google and Apple desperately want to use dashboard displays as another platform for their apps and screens. A major battle is now raging between auto makers and big tech companies for control of the dashboard display.

Auto makers currently are at a disadvantage. New car models are designed and engineered several years out, and car owners tend to keep their cars longer than their smartphones. The older car displays weren't designed to be updated like smartphones.

Google and Apple have developed special software for car display systems called Android Auto and CarPlay that presents apps from smartphones on a vehicle's display screen using large icons and voice controls to help keep drivers' eyes on the road and hands on the wheel. Some car makers such as Chevrolet, Toyota, and Volvo are making their dashboard displays compatible with Android Auto and Apple CarPlay. Google recently created a new version of its Android operating system (Android Automotive) tailored for vehicle dashboards that does not need input from smartphones.

Auto makers such as Ford and Daimler AG believe they will be better off developing their own dashboard apps and system software. Volkswagen AG wants to keep control over the reams of consumer data generated by its vehicles' onboard electronics and has developed its own car operating system (vw.OS) and online store of apps and

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services that run in the cloud. Volkswagen's I.D. series of electric vehicles will be the company's first to use its dashboard systems. Ford is also developing its own dashboard system, but it will allow users to project some of their smartphone apps to the car screen.

The "fourth screen" comes with its own set of challenges. One is the potential for distracting drivers, who still need to keep their eyes on the road and hands on the wheel while their car is moving. Voice recognition might not work well for drivers barreling 70 mph on the highway, competing with wind and road noise and searching for a signal that may be going in and out.

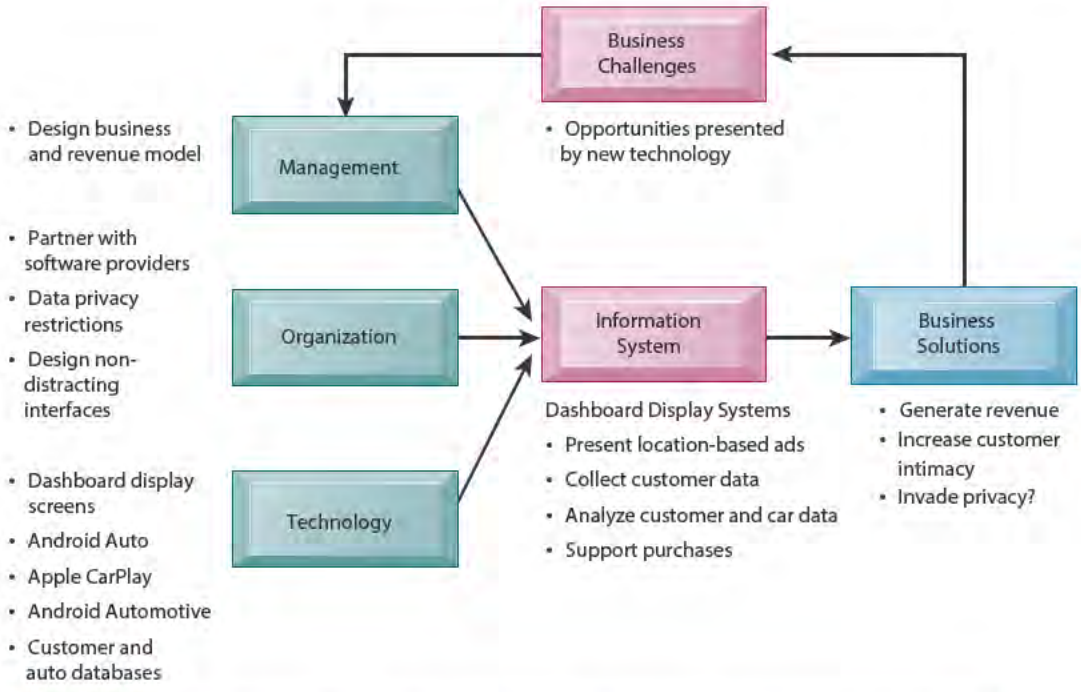
The "fourth screen" also presents challenges for privacy protection because its software is able to collect a large amount of personal data from cars and drivers. This is of special concern for European auto makers, who have stricter data protection standards than the United States. Volkswagen rejected Google's request to access data about a car's fuel levels so that Android could determine the need for gasoline and provide directions to a service station. Google had also asked BMW if sensors could be installed in the passenger seat to determine the occupant's weight, which would indicate whether the passenger was an adult or a child. A Google spokesperson has said that the company's data collection policy requires it to obtain driver approval before accessing any information.

Sources: Jackie Dove, "The Best Android Auto Apps for 2020," *Digital Trends*, January 5, 2020; Tim Higgins and Willam Boston, "The Battle for the Last Unconquered Screen—the One in Your Car," *Wall Street Journal*, April 6, 2019; Peter Koeppel, "The Fight for the Fourth Screen—Your Dashboard Display," *Koeppel Direct*, June 11, 2019; and Ronan Glon, "What Is Android Auto?" *Digital Trends*, June 23, 2019.

The Internet-enabled dashboard infotainment systems described here illustrate some of the major trends in e-commerce today. E-commerce is everywhere. Internet-based buying, selling, and advertising are no longer limited to the computer screen—they are taking place on mobile smartphones, tablets, and now on car dashboard displays. What is being bought and sold is not just products but information and services. These dashboard infotainment services use advanced data mining and location-based advertising to generate revenue from the user data they capture and also from on-screen purchases such as for gasoline. Apple, Google, and major auto makers are competing to deliver innovative infotainment services using cars' dashboard displays.

The chapter-opening diagram calls attention to important points raised by this case and this chapter. The challenge facing auto makers and Big Tech companies is how to take advantage of opportunities presented by the Internet, improvements in dashboard display technology, and location-based technology to wring new profits from advertising and services for car drivers. Both the auto makers and tech companies have made major investments in technology to design and implement new e-commerce interfaces and operating systems for auto display screens and to collect and analyze large amounts of data about drivers and cars generated by in-car systems. What has not been resolved is whether these dashboard systems can truly function under all driving conditions without distracting drivers and without invading privacy.

Here are some questions to think about: What people, organization, and technology issues must be addressed when designing and implementing car dashboard display systems for e-commerce? What are the advantages and drawbacks to using this form of e-commerce?



10-1 What are the unique features of e-commerce, digital markets, and digital goods?

Today, purchasing goods and services online by using smartphones, tablets, and desktop computers has become ubiquitous. In 2020, an estimated 2.25 billion people (over 55% of the global Internet population) will purchase something online. 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 is composed of three major segments: retail goods, travel and services, and online content. In 2020, in the United States, e-commerce consumer sales of goods ($675 billion), travel and services (about $475 billion), and online content (about $67 billion) will total about $1.2 trillion.

Worldwide, online sales of retail goods will generate over $3.9 trillion in 2020, almost 17% of total retail sales. Unlike traditional sales, which dropped by almost 6% due to the COVID-19 pandemic, worldwide e-commerce retail sales grew by over 16% in 2020. E-commerce is still a small part of the much larger retail goods market that takes place in physical stores. E-commerce has expanded from the desktop and home computer to mobile devices, from an isolated activity to a new social commerce, and from commerce focused on a national audience to local merchants and consumers whose location is known to mobile devices. Retail m-commerce now accounts for 65% of total retail e-commerce sales worldwide, with the majority of these purchases taking place on a smartphone. The key words for understanding this new e-commerce in 2020 are "social, mobile, local" (eMarketer, 2020a).

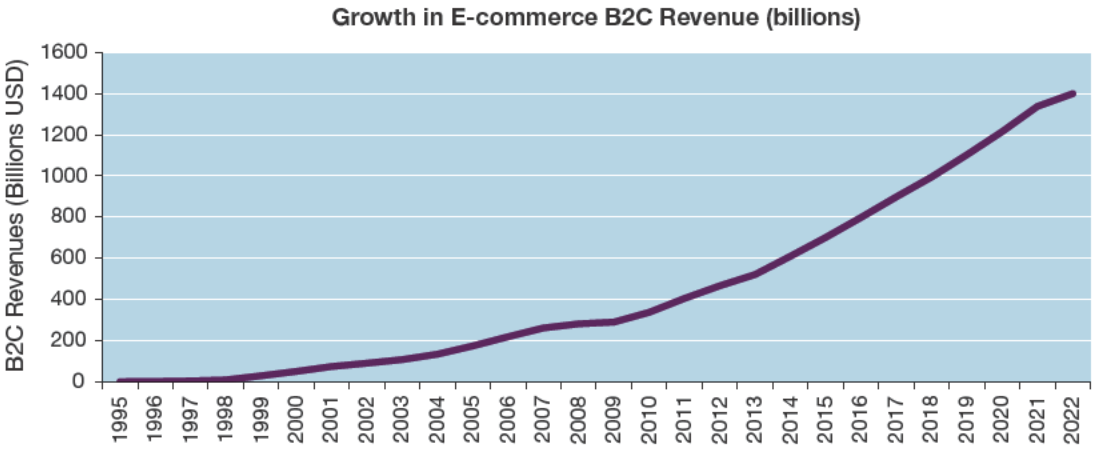
E-commerce Today

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

FIGURE 10.1 THE GROWTH OF E-COMMERCE IN THE UNITED STATES

U.S. B2C e-commerce revenues grew 15–25 percent per year until the recession of 2008–2009, when they slowed measurably. In 2020, e-commerce revenues are expected to grow at an estimated 13%.

Sources: Based on data from eMarketer, "US Retail Ecommerce Sales," 2020; eMarketer, "US Digital Travel Sales," 2020; authors' estimates.



most part, this refers to 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 in the United States grew at double-digit rates until the recession of 2008–2009, when growth slowed to a crawl and revenues flattened (see Figure 10.1), which is not bad considering that traditional retail sales were shrinking by 5 percent annually during the recession. Since then, offline retail sales have been increasing in the range of 2 to 4 percent, whereas online e-commerce has been a stellar success, growing in the 12 to 15 percent range.

The rapid growth in e-commerce in the early years created a market bubble in e-commerce stocks, which 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.

The New E-commerce: Social, Mobile, Local

One of the biggest changes is the extent to which e-commerce has become more social, mobile, and local. Online marketing once consisted largely of creating a corporate website, buying display ads on portal sites such as Yahoo,

TABLE 10.1 THE GROWTH OF E-COMMERCE

BUSINESS TRANSFORMATION
E-commerce remains the fastest-growing form of commerce when compared to physical retail stores, services, and entertainment. Social, mobile, and local commerce have become the fastest-growing forms of e-commerce.
The breadth of e-commerce offerings grows, especially in the services economy, as well as entertainment, retail apparel, jewelry, appliances, and home furnishings. On-demand services like Uber, Lyft, Airbnb, meal delivery services, and pet-care services have further expanded online service offerings.
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, and traditional retail firms, such as Walmart, Zara, H&M, and others, have developed omnichannel business models to strengthen their dominant physical retail assets. Walmart, the world's largest retailer, has decided to take on Amazon with a more than $1 billion investment in its e-commerce efforts, and is currently ranked third in e-commerce sales, with estimated online revenues in 2020 of $35 billion, about 5 percent of all online retail e-commerce in the United States. Amazon, of course, is first with an estimated $260 billion in 2020 online sales, about 40 percent of all retail e-commerce.
Small businesses and entrepreneurs continue to flood the e-commerce marketplace, often riding on infrastructures created by industry giants, such as Amazon, Apple, and Google, and increasingly taking advantage of cloud-based computing resources.
Mobile e-commerce has taken off worldwide with location-based services and entertainment downloads, including e-books, movies, music, and television shows. Mobile retail e-commerce is expected to generate about $2.54 trillion in 2020 (eMarketer, 2020b).
TECHNOLOGY FOUNDATIONS
Wireless Internet connections (Wi-Fi, WiMax, 4G, and 5G smartphones) continue to expand.
Powerful smartphones and tablet computers provide access to music, web surfing, and entertainment as well as voice communication. Podcasting and streaming take off as platforms for distribution of video, radio, and user-generated content.
Mobile devices expand to include wearable computers such as Apple Watch and Fitbit trackers, along with in-home devices such as Amazon Alexa and Google Assistant.
The Internet broadband foundation becomes stronger in households and businesses as communication prices fall.
Social networking apps and sites such as Facebook, Twitter, LinkedIn, Instagram, and others seek to become a major new platform for e-commerce, marketing, and advertising eMarketer, "U.S. Facebook Users and Penetration," February 2020).
Internet-based models of computing, such as smartphone apps, cloud computing, software as a service (SaaS), and platform as a service (PaaS), reduce the cost of building and maintaining e-commerce websites.
NEW BUSINESS MODELS EMERGE
Almost 80 percent of the global Internet population has joined an online social network, created blogs, and shared photos and music. Together, these sites create an online audience as large as that of television that is attractive to marketers. In 2020, social networking will account for an estimated 13.5 percent of time spent with digital media in the United States. Social sites have become the primary gateway to the Internet in news, music, and, increasingly, products and services (eMarketer, 2020b, 2019b).
The traditional advertising industry is disrupted as online advertising grows twice as fast as TV and print advertising; Google, Yahoo, and Facebook display more than 1 trillion ads a year.
On-demand service e-commerce sites such as Uber, Lyft, and Airbnb extend the market creator business model (on-demand model) to new areas of the economy.
Newspapers and other traditional media adopt online, interactive models but are losing advertising revenues to the online players such as Google, Facebook, and portals despite gaining online readers. Book publishing continues to grow slowly because of the growth in e-books and the continuing appeal of traditional trade books.
Online entertainment business models offering television, movies, music, and games grow with cooperation among the major copyright owners in the different media industries and with the Internet distributors such as Netflix, Amazon, Apple, and YouTube. Increasingly, the online distributors are moving into movie and TV production. Cable television is in modest decline, as some viewers cut or reduce their cable subscriptions and rely on Internet-based alternatives such as Roku or YouTube TV.

purchasing search-related ads on Google, and sending email messages. The workhorse of online marketing was the display ad. It still is, but it's increasingly being replaced by video ads, which are far more effective. Display ads from the very beginning of the Internet were based on television ads, where brand messages were flashed before millions of users who were not expected to respond immediately, ask questions, or make observations. If the ads did not work, the solution was often to repeat the ad. The primary measure of success was how many eyeballs (unique visitors) a website produced and how many impressions a marketing campaign generated. (An impression was one ad shown to one person.) Both of these measures were carryovers from the world of television, which measures marketing in terms of audience size and ad views.

From Eyeballs to Conversations: Conversational Commerce

After 2007, all this changed with the rapid growth of Facebook and other social sites, the explosive growth of smartphones beginning with the Apple iPhone, and the growing interest in local marketing. What's different about the new world of social-mobile-local e-commerce is the dual and related concepts of conversations and engagement. In the popular literature, this is often referred to as conversational commerce. Marketing in this new period is based on firms engaging in multiple online conversations with their customers, potential customers, and even critics. Your brand is being talked about on the web and social media (that's the conversation part), and marketing your firm, and building and restoring your brands require you to locate, identify, and participate in these conversations. Social marketing means all things social: listening, discussing, interacting, empathizing, and engaging. The emphasis in online marketing has shifted from a focus on eyeballs to a focus on participating in customer-oriented conversations. In this sense, social marketing is not simply a new ad channel but a collection of technology-based tools for communicating with shoppers. The leading social commerce platforms are Facebook, Instagram, Twitter, and Pinterest.

In the past, firms could tightly control their brand messaging and lead consumers down a funnel of cues that ended in a purchase. That is not true of social marketing. Consumer purchase decisions are increasingly driven by the conversations, choices, tastes, and opinions of their social network. Social marketing is all about firms participating in and shaping this social process.

From the Desktop to the Smartphone

Online advertising now makes up more than 55% of all advertising worldwide. Mobile marketing now constitutes over 70% of online marketing, and the remainder is browser-based desktop ads, search, display ads, video ads, email, and games (eMarketer, 2020d, 2020e).

Social, mobile, and local e-commerce are connected. As mobile devices become more powerful, they are more useful for accessing Facebook and other social sites. As mobile devices become more widely adopted, customers can use them to find local merchants, and merchants can use them to alert customers in their neighborhood of special offers.

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 richer and more powerful than previous technology revolutions such as radio, television, and the telephone. Table 10.2 describes the unique features of the Internet and web as a commercial medium. Let's explore each of these unique features in more detail.

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 all the time. It makes it possible to shop from your desktop, at home, at work, or even from your car, using smartphones. The result is called a **marketspace**—a marketplace 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 to spend time or money traveling to a market, and much less mental effort is required to make a purchase.

TABLE 10.2 EIGHT UNIQUE FEATURES OF E-COMMERCE TECHNOLOGY

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

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 about 4 billion).

In contrast, most traditional commerce is local or regional—it involves local merchants or national merchants with local outlets. Television, 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.

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. All nations around the world share them 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 cellular 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 can 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 and peer-to-peer communication among friends. Television, for instance, cannot ask viewers any questions or enter conversations with them, and it cannot request customer information to be entered on a form. In contrast, all these activities are possible on an e-commerce website or mobile app. 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 that 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 clickstream behavior, 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, online news outlets such as the *Wall Street Journal Online* allow you to select the type of news stories you want to see first and give you the opportunity to be alerted when certain events happen.

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 friends (and a larger worldwide community) content in the form of text, videos, music, or photos. By using these forms of communication, users can create new social networks and strengthen existing ones.

All previous mass media, including the printing press, use a broadcast model (one-to-many) in which content is created in a central location by experts (professional writers, editors, directors, and producers), with audiences 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 can exchange massive amounts of information directly, instantly, and 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 automobile retailing sites appeared on the web, there was 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 websites 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 flexible and efficient because they operate with reduced search and transaction costs, lower **menu costs** (merchants' costs of changing prices), greater price discrimination, and the ability to change prices dynamically based on market conditions. In **dynamic pricing**, the price of a product varies depending on the demand characteristics of the customer or the supply situation of the seller. For instance, online retailers from Amazon to Walmart change prices on thousands of products based on time of day, demand for the product, and users' prior visits to their sites. Using big data analytics, some online firms can adjust prices at the individual level based on behavioral targeting parameters such as whether the consumer is a price haggler (who will receive a lower price offer) versus a person who accepts offered prices and does not search for lower prices. Prices can also vary by zip code. Uber, along with other ride services, uses surge pricing to adjust prices of a ride based on demand (which always rises during storms and major conventions).

These new digital markets can either reduce or increase switching costs, depending on the nature of the product or service being sold, and they might cause some extra delay in gratification due to shipping times. 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).

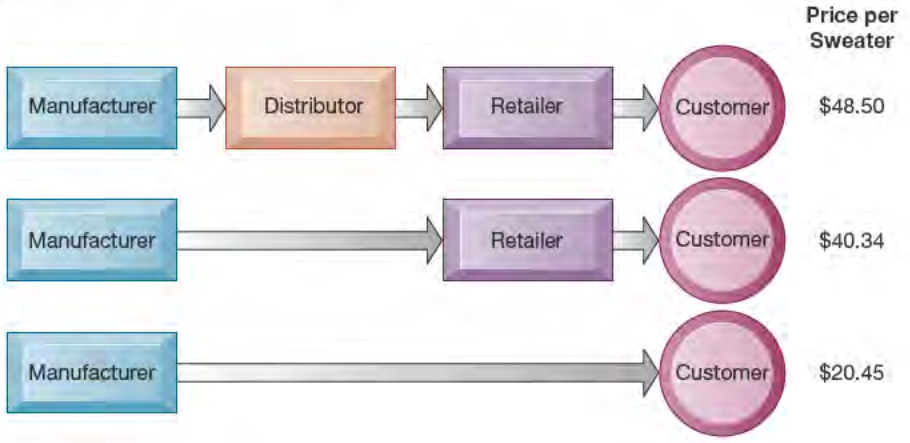
Digital markets provide many opportunities to sell directly to the consumer, bypassing intermediaries such as distributors or retail outlets. Eliminating intermediaries in the distribution channel can significantly lower purchase transaction costs. To pay for all the steps in a traditional distribution channel, a product may have to be priced as high as 135 percent of its original cost to manufacture.

Figure 10.2 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 can 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**. E-commerce has also given rise to a completely new set of new intermediaries such as Amazon, eBay, PayPal, and Blue Nile. Therefore, disintermediation differs from one industry to another.

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 10.3 summarizes the differences between digital markets and traditional markets.

FIGURE 10.2 THE BENEFITS OF DISINTERMEDIATION TO THE CONSUMER

The typical distribution channel has several intermediary layers, each of which adds to the final cost of a product, such as a sweater. Removing layers lowers the final cost to the customer.



Digital Goods

The Internet digital marketplace has greatly expanded sales of **digital goods**—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. For the most part, digital goods are intellectual property, which is defined as "works of the mind." Intellectual property is protected from misappropriation by copyright, patent, trademark, and trade secret laws (see Chapter 4). Today, all these products are delivered as digital streams or downloads while their physical counterparts decline in sales.

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). The cost of producing the original first unit, however, 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 low, marketing costs often 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.

TABLE 10.3 DIGITAL MARKETS COMPARED WITH TRADITIONAL MARKETS

	DIGITAL MARKETS	TRADITIONAL MARKETS
Information asymmetry	Asymmetry reduced	Asymmetry high
Search costs	Low	High
Transaction costs	Low (sometimes virtually nothing)	High (time, travel)
Delayed gratification	High (or lower in the case of a digital good)	Lower: purchase now
Menu costs	Low	High
Dynamic pricing	Low cost, instant	High cost, delayed
Price discrimination	Low cost, instant	High cost, delayed
Market segmentation	Low cost, moderate precision	High cost, less precision
Switching costs	Higher/lower (depending on product characteristics)	High
Network effects	Strong	Weaker
Disintermediation	More possible/likely	Less possible/unlikely

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, music stores, book publishers, music labels, and film studios—face the possibility of declining sales and even destruction of their businesses. Newspaper and magazine subscriptions to print copies are declining, while online readership and subscriptions are expanding.

Total U.S. record label industry revenues fell nearly 50 percent from $14 billion in 1999 to about $7.7 billion in 2016, due almost entirely to the rapid decline in CD album sales and the growth of digital music services (both legal and illegal music piracy). But revenues increased in 2019 by 13 percent to over $11 billion primarily through the growth of paid subscriptions (RIAA, 2020). The Apple iTunes Store has sold more than 25 billion songs since opening in 2003, providing a digital distribution model that has restored some of the revenues lost to digital music channels. Yet the download business is rapidly fading at Apple, as streaming becomes the dominant consumer path to music. Since iTunes, illegal downloading has been cut in half, and legitimate online music sales (both downloads and streaming) in the United States amounted to almost $9.7 billion in 2019. As cloud streaming services expand, illegal downloading will decline further. Digital music sales, both digital download and streaming, account for almost 90 percent of all music revenues. The music labels make only about 32 cents from a single track download and only 0.5 cents for a streamed track. Although the record labels make revenue from ownership of the song (both words and music), the artists who perform the music make virtually nothing from streamed music.

The movie industry has been less severely disrupted than the music industry by illegal digital distribution platforms, because it is more difficult to download high-quality, pirated copies of full-length movies and because of the availability of low-cost, high-quality legal movies. The movie industry has struck lucrative distribution deals with Netflix, Google, Hulu, Amazon, and Apple, making it convenient to download and pay for high-quality movies and television series. Arrangements with online distributors have not been enough to compensate entirely for the loss in DVD sales, which have fallen precipitously between 2006 and 2020. Digital format streaming and downloads grew by 17.5 percent in 2019 and and now makes up over 80 percent of U.S. home entertainment. As with television series, the demand for feature-length movies is expanding, in part because of the growth of smartphones, tablets, and smart TVs, making it easier to watch movies in more locations.

In 2020, over 3 billion Internet users worldwide are expected to view online video and movies, about 75 percent of the global Internet population (eMarketer, 2020f). There is little doubt that the Internet is becoming a major movie distribution and television channel that rivals cable television, and someday it may replace cable television entirely.

Table 10.4 describes digital goods and how they differ from traditional physical goods.

10-2 What are the principal e-commerce business and revenue models?

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.

TABLE 10.4 HOW THE INTERNET CHANGES THE MARKETS FOR DIGITAL GOODS

	DIGITAL GOODS	TRADITIONAL GOODS
Marginal cost/unit	Zero	Greater than zero, high
Cost of production	High (most of the cost)	Variable
Copying cost	Approximately zero	Greater than zero, high
Distributed delivery cost	Low	High
Inventory cost	Low	High
Marketing cost	Variable	Variable
Pricing	More variable (bundling, random pricing games)	Fixed, based on unit costs

Types of E-commerce

There are many ways to classify electronic commerce transactions—one is by looking at the nature of the participants. 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. Amazon, Walmart, and Apple Music are examples of B2C e-commerce.
- **Business-to-business (B2B)** electronic commerce involves sales of goods and services among businesses. Elemica's website for buying and selling chemicals and energy 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. eBay acts as a middleman by creating a digital platform for peer-to-peer commerce. Gumtree is an example of a popular C2C platform in the UK.

Another way of classifying electronic commerce transactions is in terms of the platforms participants use in a transaction. Until recently, most e-commerce transactions took place using a desktop PC connected to the Internet over a wired network. Several wireless mobile alternatives have emerged, such as smartphones and tablet computers. The use of handheld wireless devices for purchasing goods and services from any location is termed **mobile commerce or m-commerce**. All three types of e-commerce transactions can take place using m-commerce technology, which we discuss in detail in Section 10-5.

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 10.5 describes some of the most important Internet business models that have emerged. All, in one way or another, use the Internet (including apps on mobile devices) to add extra value to existing products and services or to provide the foundation for new products and services.

TABLE 10.5 INTERNET BUSINESS MODELS

CATEGORY	DESCRIPTION	EXAMPLES
E-tailer	Sells physical products directly to consumers or to individual businesses.	Amazon Farfetch
Transaction broker	Saves users money and time by processing online sales transactions and generating a fee each time a transaction occurs.	E*Trade.com Booking.com
Market creator	Provides a digital environment where buyers and sellers can meet, search for products, display products, and establish prices for those products; can serve consumers or B2B e-commerce, generating revenue from transaction fees.	eBay Exostar Elemica
Content provider	Creates revenue by providing digital content, such as news, music, photos, or video, over the web. The customer may pay to access the content, or revenue may be generated by selling advertising space.	FT.com Alamy Apple Music MSN Games
Community provider	Provides an online meeting place where people with similar interests can communicate and find useful information.	Facebook Twitter
Portal	Provides initial point of entry to the web along with specialized content and other services.	Yahoo MSN AOL
Service provider	Provides applications such as photo sharing, video sharing, and user-generated content as services; provides other services such as online data storage and backup.	Google Docs Photobucket.com Dropbox

Portal

Portals are gateways to the web and are often defined as those sites that users set as their home page. Some definitions of a portal include search engines such as Google and Bing even if few make these sites their home page. Portals such as Yahoo, Facebook, MSN, and AOL offer web search tools as well as an integrated package of content and services such as news, email, instant messaging, maps, calendars, shopping, music downloads, video streaming, and more all in one place. The portal business model now provides a destination site where users start their web searching and linger to read news, find entertainment, meet other people, and, of course, be exposed to advertising. Facebook is a different kind of portal based on social networking. Portals generate revenue primarily by attracting very large audiences, charging advertisers for display ad placement (similar to traditional newspapers), collecting referral fees for steering customers to other sites, and charging for premium services. Although there are hundreds of portal/search engine sites, the top portals (Yahoo, MSN, and AOL) gather more than 90 percent of the Internet's U.S. portal traffic because of their superior brand recognition.

E-tailer

Online retail stores, often called **e-tailers**, come in all sizes, from giant Amazon with estimated 2020 retail sales revenues of more than $280 billion to tiny local stores that have websites. An e-tailer is similar to the typical brick-and-mortar

storefront, except that customers only need to connect to the Internet to check their inventory and place an order. Altogether, online retail (the sale of physical goods online) will generate about $3.9 trillion in revenues worldwide in 2020. The value proposition of e-tailers is to provide convenient, low-cost shopping 24/7; large selections; and consumer choice. Some e-tailers, such as Tesco.com or Zara.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. Ashford.com and eVitamins.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

E-commerce has increasingly become a global content channel. *Content* is defined broadly to include all forms of intellectual property. **Intellectual property** refers to tangible and intangible products of the mind for which the creator claims a property right. Content providers distribute information content—such as digital video, music, photos, text, and artwork—over the web. The value proposition of online content providers is that consumers can conveniently find a wide range of content online and purchase this content inexpensively to be played or viewed on multiple computer devices or smartphones.

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 music store and streaming music service, but it does not create or commission new music.

The phenomenal popularity of Internet-connected mobile devices such as the iPhone and iPad has enabled new forms of digital content delivery from podcasting to mobile streaming. **Podcasting** is a method of publishing audio or video broadcasts through the Internet, allowing subscribing users to download audio or video files onto their personal computers, smartphones, tablets, or portable music players. **Streaming** is a publishing method for music and video files that flows a continuous stream of content to a user's device without being stored locally on the device.

Estimates vary, but total online content generated about $60 billion in the United States in 2019, one of the fastest-growing e-commerce segments, growing at an estimated 18 percent annual rate.

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 and providing an extraordinary inventory of financial products or travel packages in a single location. Online stockbrokers and travel booking services charge fees that are considerably less than traditional versions of these services. Fidelity and Expedia are examples of financial and travel service firms based on a transaction broker model.

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 purchasers can buy directly from sellers. Online auction markets such as 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 website and sell goods at fixed prices to consumers. The so-called on-demand economy (mistakenly often referred to as the sharing economy), exemplified by Uber and Airbnb, is based on the idea of a market creator building a digital platform where supply meets demand; for instance, spare auto or room rental capacity finds individuals who want transportation or lodging. Deliveroo, profiled in the Interactive Session on Technology, is another example. Crowdsource funding markets such as Kickstarter.com bring together private equity investors and entrepreneurs in a funding marketplace.

Service Provider

Whereas e-tailers sell products online, service providers offer services online. 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 disk in a box but, increasingly, software as a service (SaaS) that you subscribe to online rather than purchase from a retailer, such as Office 365. Google has led the way in developing online software service applications such as G Suite, Google Sites, Gmail, and online data storage services. Salesforce.com is a major provider of cloud-based software for customer management (see Chapters 5 and 9).

Community Provider (Social Networks)

Community providers are sites that create a digital online environment where people with similar interests can transact (buy and sell goods); share interests, photos, and videos; communicate with like-minded people; receive interest-related information; and even play out fantasies by adopting online personalities called *avatars*. Social networking sites Facebook, Pinterest, Instagram, LinkedIn, and Twitter and hundreds of other smaller, niche sites all offer users community-building tools and services. Social networking sites have been the fastest-growing websites in recent years, often doubling their audience size in a year.

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 many e-commerce revenue models 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 affiliate.

Advertising Revenue Model

In the **advertising revenue model**, a website 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 because people would be asked to pay for access to content. Content on the web—everything from news to videos and opinions—is free to visitors because advertisers pay the production and distribution costs in return for the right to expose visitors to ads. Companies will spend an estimated $340 billion on online advertising worldwide in 2020 (in the form of a paid message on a website, paid search listing, video, app, game, or other online medium, such as instant messaging), up 17 percent from 2019.

INTERACTIVE SESSION TECHNOLOGY

Deliveroo: Global Food Delivery App

Deliveroo is an on-demand, online food delivery platform that links hungry people looking for a meal with restaurants seeking to provide them, using bike riders/couriers to deliver those meals in a timely fashion. Deliveroo now operates in almost 800 cities and towns and works with an estimated 140,000 participating restaurants, using around 80,000 freelance riders/couriers. While Deliveroo started out in 2013 in the United Kingdom, it has spread rapidly and now operates in the Netherlands, France, Belgium, Ireland, Spain, Italy, Australia, Singapore, the United Arab Emirates, and Hong Kong.

Prior to the COVID-19 pandemic, consumers used Deliveroo to avoid the hassle of driving and waiting for food, but during the pandemic it has in many ways become an essential service. Deliveroo believes the pandemic has significantly accelerated consumer adoption of food delivery. Deliveroo enables restaurants to expand their business without building additional, expensive storefronts, and instead maximize their existing footprint and investment. It also provides an opportunity for restaurateurs to advertise their offerings on the app and launch promotional deals. For its riders/couriers, Deliveroo offers a flexible job that fits into their schedules. The net result, on paper, is a win–win for all parties.

What makes all this possible is a collection of technologies from databases to record in-coming orders, to a real-time dispatching system, to smartphones, to cloud services such as Amazon Web Services (AWS). For instance, AWS enables Deliveroo to fast-track orders using a real-time dispatching and resource management algorithm based on Amazon SageMaker machine learning software that analyzes orders based on the location of riders, customers, and restaurants, and then calculates the most efficient way of dispatching orders and selecting riders. This system can also analyze past patterns of delivery and direct riders to areas of the city where they are most likely to be needed. This software enables riders to earn more (they are paid $10 per delivery) in the same number of hours and customers to receive their meals more rapidly, saving minutes on each delivery. Deliveroo also uses Amazon SageMaker to recommend restaurants, products, and features to customers based on their past orders. AWS also helps Deliveroo to scale its operations, as well as specific features, to meet fluctuating demand, something that became particularly important after the onset of the COVID-19 pandemic, which resulted in a tripling of the demand for food delivery. This flexibility also enabled Deliveroo to introduce new services such as grocery delivery during lockdown.

Like nearly all "gig-economy" companies, Deliveroo has not yet recorded an annual profit. Although its 2019 sales reached almost £772 million, its losses for the year also grew to £318 million, driven largely by ballooning administrative expenses, including technology. Deliveroo's operations thus far have been primarily funded by venture capital. In May 2019, it raised an additional $575 million by selling a 16 percent stake in the company to Amazon, an investment that raised anti-competitive concerns, but which was ultimately approved by the UK Competitions and Markets Authority in August 2020.

Deliveroo's business model is based on paying drivers below market rates and on the absence of benefits which are common in most countries and considered a part of paid employment. Deliveroo accomplishes this by defining itself not as a food delivery service but rather as a digital platform used by self-employed independent contractors. Deliveroo makes money by collecting a commission from restaurants for each order and charging customers a delivery fee. It pays its contract riders $10 a delivery. The average rider makes from $10 to $20 an hour, depending on the number of deliveries. In contrast, the average wage of paid couriers in Australian cities is $23.50 an hour with benefits, including healthcare, insurance, pension, and legal protections offered by the government, which pumps the overall compensation by 33 percent to about $30 an hour.

On-demand "gig economy" companies like Deliveroo face a number of ongoing lawsuits. For instance, a French court recently found Deliveroo guilty of "undeclared work," ruling that paying its cyclists as independent contractors was an attempt to skirt labor laws. Deliveroo is also facing claims in Belgium that it should be paying payroll taxes for the thousands of Belgians riders delivering meals. In Australia, Deliveroo has been accused of violating the Fair Work Act. Lawyers describe Deliveroo contracts as "shams" and say that the firm fails to pay minimum rates as well as to deliver Work Cover Insurance, sick and maternity leave, and pension payments. The lawsuits also claim Deliveroo fails

to provide for safety training for riders and safety checks of bikes, resulting in numerous injuries to riders and pedestrians. The company claims it does not control workers, while the lawsuits and riders themselves claim Deliveroo exercises near complete control over riders by requiring uniforms, dispatching riders to restaurants and customers, tracking their performance, and disciplining those who do not meet its productivity requirements.

Does Deliveroo have a viable business model? In the past, it has had no trouble attracting riders to work for below minimum wages. But it is finding it increasingly difficult to defend the legal status of riders as contractors. As the global economy expands again and wages increase, Deliveroo may find its future growth impaired by labor shortages and rising wages regardless of the result of the many lawsuits and court decisions.

Sources: AWS, "Deliveroo Finds Ingredients for Success with AWS," aws.amazon.com, accessed December 29, 2020; Tim Bradshaw, "Deliveroo's Losses Soared Before Its Pandemic Recovery," FT.com, December 21, 2020; Sam Shead, "Covid Has Accelerated the Adoption of Online Food Delivery by 2 to 3 Years, Deliveroo CEO Says," CNBC, December 3, 2020; Archie Mitchell, "Amazon Finally Wins Approval from Regulators to Gobble Up Minority State in Deliveroo," Marketwatch.com, August 5, 2020; France24, "France Faults Deliveroo in 'Undeclared Work' Lawsuit," France24.com, February 7, 2020; Campbell Kwan, "Deliveroo Faces Lawsuit for Allegedly Underpaying Food Delivery Riders," Zdnet.com, August 28, 2019; Ellie Donnelly, "Deliveroo Fast-tracks Orders Thanks to Real-time Algorithm," *The Independent*, August 10, 2017.

CASE STUDY QUESTIONS

1. Based on your reading of the chapter, what kind of business model is Deliveroo using? Is it different from or the same as Uber?
2. What technologies are used by Deliveroo to support its business model?
3. What's the difference between an employee and a contractor?
4. What risk factors might limit Deliveroo's growth in the future?

About $246 billion of this will be for mobile ads. Mobile ads will account for over 72 percent of all digital advertising. In the past five years, advertisers have increased online spending while maintaining outlays on traditional channels such as radio and television (but cutting print ads). In 2020, online advertising will constitute over 55 percent of all advertising worldwide (eMarketer, 2020d, 2020e).

Websites with the largest viewership or that attract a highly specialized, differentiated viewership and are able to retain user attention (stickiness). As a result, they can charge higher advertising rates. Yahoo, for instance, derives nearly all its revenue from display ads (banner ads), video ads, and, to a lesser extent, search engine text ads. Google and Facebook derive well over 90 percent of their revenue from advertising, including selling keywords (AdWords), ad spaces (AdSense), and display ad spaces to advertisers.

Sales Revenue Model

In the **sales revenue model**, companies derive revenue by selling goods, information, or services to customers. Companies such as Amazon (which sells books, music, and other products), HM.com, and Zara.com all have sales revenue models. Content providers make money by charging for downloads or streaming of entire files such as music tracks (Apple Music and iTunes Store) or books or for downloading music and/or video streams (Hulu.com TV shows). 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 cents to $5.00 per transaction). The largest micropayment system on the web has been Apple's iTunes Store, which has more than 1 billion customers worldwide who purchase individual music tracks for 99 cents and feature-length movies for various prices.

Subscription Revenue Model

In the **subscription revenue model**, a website 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 for a $39.00 annual fee. Netflix is one of the most successful subscriber sites with over 180 million customers worldwide in 2020. To be successful, the subscription model requires the content to be perceived as differentiated, having high added value, and not readily available elsewhere or easily replicated. Other companies offering content or services online on a subscription basis include Match.com (dating services), Ancestry.com (genealogy research), and Microsoft Xbox Live.

Free/Freemium Revenue Model

In the **free/freemium revenue model**, firms offer basic services or content for free and charge a premium for advanced or special features. For example, Google offers free applications but charges for premium services. Pandora, the subscription radio service, offers a free service with limited play time and advertising and a premium service with unlimited play. The idea is to attract large audiences with free services and then convert some of this audience to pay a subscription for premium services. One problem with this model is converting people from being freeloaders into paying customers. "Free" can be a powerful model for losing money. None of the freemium music streaming sites have earned a profit to date. Nevertheless, they are finding that free service with ad revenue is more profitable than the paid subscriber part of their business.

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. The transaction revenue model enjoys wide acceptance in part because the true cost of using the platform is not immediately apparent to the user.

Online financial services, from banking to payment systems, rely on a transaction fee model. While online banking and services are dominated by large banks with millions of customers, start-up financial technology firms, also known as **FinTech** firms, have used IT innovatively to compete with banks for peer-to-peer (P2P) bill payment, money transfer, lending, crowd funding, financial advice, and account aggregation services. The largest growth in FinTech has involved P2P payment services, such as Venmo and Zelle (see the discussion of mobile payment app systems in section 10-5). FinTech firms are typically not profitable and are often bought out by larger financial service firms for their technology and customer base.

Affiliate Revenue Model

In the **affiliate revenue model**, websites (called *affiliate websites*) send visitors to other websites in return for a referral fee or percentage of the revenue from any resulting sales. Referral fees are also referred to as lead generation fees. 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 Yelp receive much of their revenue from steering potential

customers to websites where they make a purchase. Amazon uses affiliates that steer business to the Amazon website by placing the Amazon logo on their blogs. Personal blogs often contain display ads as part of affiliate programs. Some bloggers are paid directly by manufacturers, or receive free products, for speaking highly of products and providing links to sales channels.

10-3 How has e-commerce transformed marketing?

Although e-commerce and the Internet have changed entire industries and enabled 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 email. The Internet enables **long tail marketing**. Before the Internet, reaching a large audience was 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 find potential customers inexpensively for products where demand is low. For instance, the Internet makes it possible to sell independent music profitably to 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 10.6 describes the leading marketing and advertising formats used in e-commerce.

Behavioral Targeting

Many e-commerce marketing firms use **behavioral targeting** techniques to increase the effectiveness of banners, rich media, and video ads. Behavioral targeting refers to tracking the clickstreams (history of clicking behavior) of individuals on thousands of websites to understand their interests and intentions and expose them to advertisements that are uniquely suited to their online behavior. Marketers and most researchers believe 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. When consumers lose trust in their web experience, they tend not to purchase anything. Backlash is growing against the aggressive uses of personal information as consumers seek out safer havens for purchasing and messaging. Snapchat offers disappearing messages, and even Facebook has retreated by making its default for new posts "for friends only."

Behavioral targeting takes place at two levels: at individual websites or from within apps, and on various advertising networks that track users across thousands of websites. All websites 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 website, 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

TABLE 10.6 U.S. ONLINE AD SPENDING BY FORMATS (BILLIONS)

MARKETING FORMAT	2020 REVENUE	DESCRIPTION
Search engine	$54.4	Text ads targeted at precisely what the customer is looking for at the moment of shopping and purchasing. Sales oriented.
Display ads	$31.1	Banner ads (pop-ups and leave-behinds) with interactive features; increasingly behaviorally targeted to individual web activity. Brand development and sales. Includes social media and blog display ads.
Video	$35.5	Fastest-growing format, engaging and entertaining; behaviorally targeted, interactive. Branding and sales.
Classified	$2.1	Job, real estate, and services ads; interactive, rich media, and personalized to user searches. Sales and branding.
Rich media	$5.6	Animations, games, and puzzles. Interactive, targeted, and entertaining. Branding orientation.
Lead generation	$2.5	Marketing firms that gather sales and marketing leads online and then sell them to online marketers for a variety of campaign types. Sales or branding orientation.
Sponsorships	$2.8	Online games, puzzles, contests, and coupon sites sponsored by firms to promote products. Sales orientation.
Email	$0.49	Effective, targeted marketing tool with interactive and rich media potential. Sales oriented.

Source: Based on eMarketer, "U.S. Digital Ad Spending by Format," *eMarketer*, June 2020.

spent on each page of the site, the types of pages visited, and what the visitors purchased (see Figure 10.3). Firms analyze this information about customer interests and behavior to develop precise profiles of existing and potential customers. In addition, most major websites have hundreds of tracking programs on their home pages, which track your clickstream behavior across the web by following you from site to site and retarget ads to you by showing you the same ads on different sites. The leading online advertising network is Google's Marketing Platform.

This information enables firms to understand how well their website 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 10.4). 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, Land Rover might show a banner ad to women emphasizing safety and utility, whereas men might receive ads emphasizing power and ruggedness.

It's a short step from ad networks to programmatic ad buying. Ad networks create real-time bidding platforms (RTB) where marketers bid in an automated environment for highly targeted slots available from web publishers. Here, ad platforms can predict how many targeted individuals will view the ads, and ad buyers can estimate how much this exposure is worth to them.

FIGURE 10.3 WEBSITE VISITOR TRACKING

E-commerce websites and advertising platforms like Google Marketing Platform have tools to track a shopper's every step through an online store and then across the web as shoppers move from site to site. Close examination of customer behavior at a website selling women's clothing shows what the store might learn at each step and what actions it could take to increase sales.

Click 1

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). Tracking beacons load cookies on the shopper's browser to follow her across the Web.

Click 2

Click 3

Click 4

Click 5

The shopper clicks on blouses, then clicks to view a woman's pink blouse. 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. If the visitor moves to a different site, ads for pink blouses will appear from the same or a different vendor.

Click 6

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

FIGURE 10.4 WEBSITE PERSONALIZATION

Firms can create unique personalized web pages that display content or ads for products or services of special interest to individual users, improving the customer experience and creating additional value.

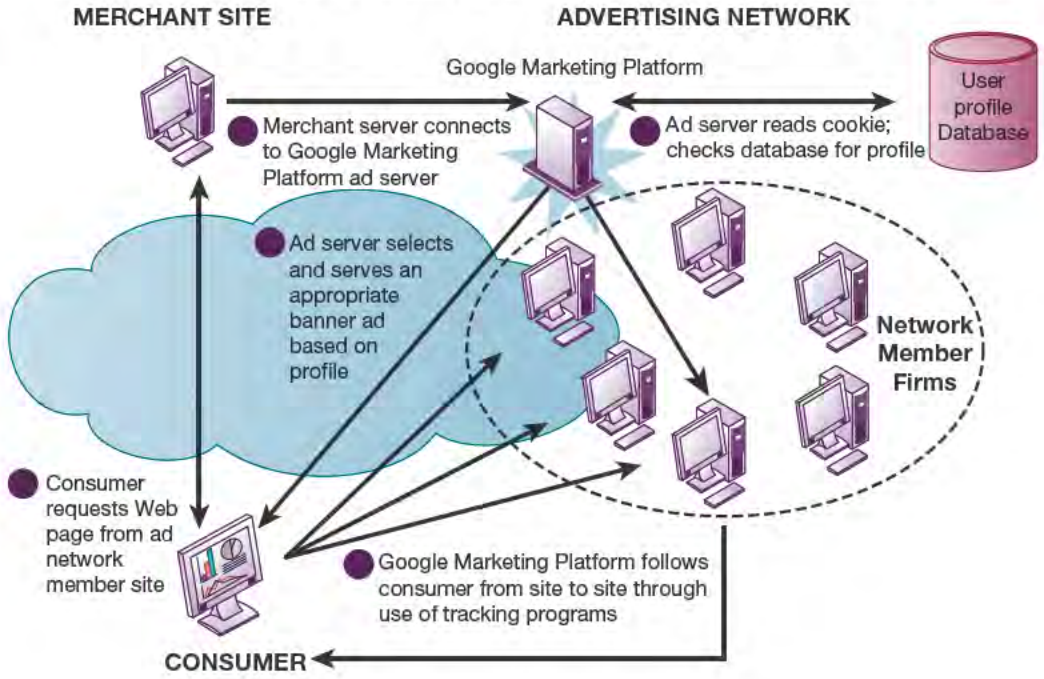
What if you are a large national advertising company or global manufacturer trying to reach millions of consumers? With millions of websites, working with each one would be impractical. Advertising networks solve this problem by creating a network of several thousand of the most popular websites millions of people visit, tracking the behavior of these users across the entire network, building profiles of each user, and then selling these profiles to advertisers in a real-time bidding environment. Popular websites download dozens of web-tracking cookies, bugs, and beacons, which report user online behavior to remote servers without the users' knowledge. Looking for young, single consumers with college degrees, living in the UK, in the 18–34 age range who are interested in purchasing a hybrid car? Advertising networks can identify and deliver thousands of people who fit this profile and expose them to ads for hybrid cars as they move from one website to another. Estimates vary, but behaviorally targeted ads are generally 10 times more likely to produce a consumer response than a randomly chosen banner or video ad (see Figure 10.5). So-called advertising exchanges use this same technology to auction access to people with specific profiles to advertisers in a few milliseconds. In 2019, about 73 percent of U.S. online display ads were targeted ads developed by programmatic ad buys, and the rest depended on the context of the pages shoppers visited—the estimated demographics of visitors, or on so-called blast-and-scatter advertising—which is placed randomly on any available page with minimal targeting, such as time of day or season.

It's another short step to **native advertising**. Native advertising involves placing ads in social network newsfeeds or within traditional editorial content, such as a newspaper article. This is also referred to as organic advertising, where content and advertising are in close proximity or are integrated together.

Two-thirds (68 percent) of U.S. Internet users disapprove of search engines and websites tracking their online behavior to aim targeted ads at them. A

FIGURE 10.5 HOW AN ADVERTISING NETWORK WORKS

Advertising networks and their use of tracking programs have become controversial among privacy advocates because of their ability to track individual consumers across the Internet.



majority of Americans want a Do Not Track option in browsers that will stop websites from collecting information about their online behavior. More than 50 percent are very concerned about the wealth of personal data online; 86 percent have taken steps to mask their online behavior; and 25 percent of web users use ad-blocking software (Rainie, 2016; eMarketer, 2019a).

Social E-commerce and Social Network Marketing

One of the fastest-growing media for branding and marketing is social media. Companies will spend an estimated $88 billion worldwide in 2020 using social networks such as Facebook, Instagram, Pinterest, Twitter, Snapchat, and LinkedIn to reach millions of consumers who spend hours a day on social sites (eMarketer, 2020g, 2020h). Expenditures for social media marketing are much smaller than for television, magazines, and even newspapers, but this will change in the future. Social networks in the offline world are collections of people who voluntarily communicate with one another over an extended period of time. Online social networks, along with other sites with social components, are websites that enable users to communicate with one another, form group and individual relationships, and share interests, values, and ideas.

Social e-commerce is commerce based on the idea of the digital **social graph**, a mapping of all significant online social relationships. The social graph is synonymous with the idea of a social network used to describe offline relationships. You can map your own social graph (network) by drawing lines from yourself to the 10 closest people you know. If they know one another, draw lines between these people. If you are ambitious, ask these 10 friends to list and draw in the names of the 10 people closest to them. What emerges from this exercise is a preliminary map of your social network. Now imagine if everyone on the Internet did the same and posted the results to a large database with a website. Ultimately, you would end up with Facebook or a site like it.

According to small world theory, you are only six links away from any other person on earth. If you entered your personal address book, which has, say, 100 names in it, in a list and sent it to your friends, and they in turn entered 50 new names of their friends, and so on, five times, the social network created would encompass 31 billion people! The social graph is therefore a collection of millions of personal social graphs (and all the people in them).

If you understand the interconnectedness of people, you will see just how important this concept is to e-commerce: The products and services you buy will influence the decisions of your friends, and their decisions will in turn influence you. If you are a marketer trying to build and strengthen a brand, you can take advantage of the fact that people are enmeshed in social networks, share interests and values, and communicate and influence one another. As a marketer, your target audience is not a million isolated people watching a TV show but the social network of people who watch the show and the viewers' personal networks. Moreover, online social networks are where the largest Internet audiences are located. Table 10.7 describes the features of social commerce that are driving its growth.

Facebook, with over 80 percent of all social marketing revenue in the United States and 220 million monthly U.S. visitors in 2020 (comScore, 2020), receives most of the public attention given to social networking. The other top social sites are also growing, though at slower rates than in the past. Twitter has over 150 million active users, with stronger offshore growth than in the United States. LinkedIn has over 107 million. Pinterest hit the top 30 in terms of monthly unique visitors, with over 100 million. According to analysts, 13.5% percent of

TABLE 10.7 FEATURES OF SOCIAL COMMERCE

SOCIAL COMMERCE FEATURE	DESCRIPTION
Newsfeed	A stream of notifications from friends and advertisers that social users find on their home pages.
Timelines	A stream of photos and events in the past that create a personal history for users, one that can be shared with friends.
Social sign-on	Websites allow users to sign into their sites through their social network pages on Facebook or another social site. This allows websites to receive valuable social profile information from Facebook and use it in their own marketing efforts.
Collaborative shopping	An environment where consumers can share their shopping experiences with one another by viewing products, chatting, or texting. Friends can chat online about brands, products, and services.
Network notification	An environment where consumers can share their approval (or disapproval) of products, services, or content or share their geolocation, perhaps a restaurant or club, with friends. Facebook's ubiquitous "like" button is an example, as are Twitter's tweets and followers.
Social search (recommendations)	An environment where consumers can ask their friends for advice on purchases of products, services, and content. Although Google can help you find things, social search can help you evaluate the quality of things by listening to the evaluations of your friends or their friends. For instance, Amazon's social recommender system can use your Facebook social profile to recommend products.

the total time spent online in the United States was spent on social network sites (almost an hour a day), and social networking is one of the most common online activities (eMarketer, 2019b).

At **social shopping** sites such as Pinterest you can swap shopping ideas with friends. Facebook offers the "like" button to let your friends know you admire a product, service, or content and, in some cases, purchase something online. Facebook processes around 3.2 billion likes and comments a day worldwide. Online communities are also ideal venues to employ viral marketing techniques. Online viral marketing is like traditional word-of-mouth marketing except that 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 and to discover who likes (or hates) their products. Some argue that, in a phenomenon called the **wisdom of crowds**, 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.

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 understand better how their products and services are used and appreciated (or rejected). Actively soliciting the comments of your

INTERACTIVE SESSION MANAGEMENT

Engaging "Socially" with Customers

Facebook, Instagram, Twitter, Snapchat, and other social tools create myriad opportunities to engage consumers, amplify product messages, discover trends and influencers, build brand awareness, and take action on customer requests and recommendations. Social media monitoring helps marketers and business owners understand more about buyers' likes, dislikes, and complaints concerning products, additional products or product modifications customers want, and how people are talking about a brand (positive or negative sentiment).

Instagram is one of the fastest-growing social networking platforms, with more than one billion active monthly followers, and is especially popular with younger Internet users. It is a powerful tool for business, enabling brands to get quick messages and photos to target audiences, engage with them, and build closer relationships. Users can interact with other Instagram users by following them, being followed by them, commenting, "liking," tagging, and private messaging. Instagram has about 25 million registered business accounts and 1 million monthly active advertisers who use sponsored ads to reach more people on this platform. Instagram generated $20 billion in ad revenue in 2019.

With over 86 million followers, Nike is one of the most popular Instagram business brands. Nike posts a mix of content, including celebrity-endorsed and lifestyle-based performance shots using still imagery, animated imagery, and video to define "moments." Like many other companies, Nike has learned that its followers are not just buying their products, they are buying the lifestyle associated with those products. Nike continually promotes its products, but it does so via lifestyle-related storytelling.

Nike's mission statement is "To bring inspiration and innovation to every athlete in the world," amateur or professional. The Nike brand reflects the belief that people can achieve more by believing in more, and that average people can be empowered to feel like full-fledged athletes if they "Just do it." Many Nike Instagram posts inspiring followers to make a jump shot or run on the beach evoke this emotive motivation, earning the brand up to 500,000 "likes" per post.

Instagram is one of many social media tools used by NBC Sports to engage with its viewers. NBC Sports has 20 million primetime viewers nightly. Instead of asking people to watch its games, as it had in the past, NBC Sports urged them to engage in conversations about games at the moment they were happening live when it covered the PyeongChang Winter Olympics in 2018. Rather than pushing news, NBC Sports wants to know how people *feel* about the news. When an ad or piece of news is released, NBC Sports wants viewers to engage in spirited social debates using its social platforms. Through social listening and analysis tools, NBC Sports is able to see in real time which ads resonated with customers.

NBC Sports uses Oracle's Customer Experience Social Cloud, a cloud-based software service that enables businesses to listen, track, analyze, and make decisions based on "consumer chatter." If a topic is heavily discussed, NBC Sports includes it in more of the content it shares. If something doesn't generate much buzz, the company shies away from it.

NBC Sports has found that different social media platforms attract different audiences, and that a piece of content might not work for every platform or every member of its audience. For example, Instagram appeals to a young audience, whereas Facebook appeals to an older following. To adapt content to different audiences, NBC Sports uses Facebook to post more in-depth stories about what's trending in sports. NBC Sports has over 50 channels for connecting with viewers socially on Instagram, Facebook, Twitter, Vine, Snapchat, and Pinterest.

Although engaging with customers via social media has benefited many companies, not all have achieved the results they hoped for. Lush UK, noted for its vegan and animal cruelty–free, all-natural face, bath, and body products, environmentally friendly packaging, and captivating Instagram posts, decided in the spring of 2019 to close its social media accounts. Lush claimed that social media was actually inhibiting its ability to engage with fans. Lush had massive followings on Instagram (570,000 followers), Twitter (200,000 followers), and Facebook (400,000 followers).

In an Instagram post, Lush stated that it was tired of catering to constant social media algorithm changes

to keep in front of followers. The company did not want to pay to appear in newsfeeds, nor did it want to limit conversations to a few places. Instead it preferred to open up conversations with customers via live chat on its website, email, and telephone. "Social media is making it harder and harder for us to talk to each other directly....We want social to be more about passions and less about likes," Lush stated.

Experts note that companies have recently had to struggle more to get in front of audiences because many social media platforms have stopped ordering news feeds chronologically in favor of algorithms that order content by "relevancy." Many businesses have been frustrated with their posts not being shown to users. They suspect the social media platforms are making these changes to encourage more brands to pay for ads as a way of increasing impressions (number of times an ad is served).

Did Lush make the right decision? Will ignoring social media work for Lush? How much value is social media really driving? Can Lush succeed in creating a meaningful community outside social media? Many companies are watching closely for answers.

Sources: Brian Peters, "Nike's Secret to Success on Instagram Building an Engaged Community," buffer.com, accessed March 28, 2020; www.nbcsports.com, accessed March 28, 2020; "Nike," www.trackalytics.com, accessed March 28, 2020; Iris Hearn, "Lush Is Quitting Social Media Due to Frustrations over 'Fighting with Algorithms,'" *Impact,* April 11, 2019; and Genna Lepore, "What You Can Learn about Social Media Marketing from NBC Sports Unique Approach," *Impact,* March 19, 2019.

CASE STUDY QUESTIONS

1. Assess the management, organization, and technology issues for using social media technology to engage with customers.
2. What are the advantages and disadvantages of using social media for advertising, brand building, market research, and customer service?
3. Give an example of a business decision in this case study that was facilitated by using social media to interact with customers.
4. Should all companies use social media technology for customer service and marketing? Why or why not? What kinds of companies are best suited to use these platforms?

customers builds trust and sends the message to your customers that you care about what they are thinking and that you need their advice.

Beyond merely soliciting advice, firms can be actively helped in solving some business problems by using **crowdsourcing**. For instance, BMW launched a crowdsourcing project to enlist the aid of customers in designing an urban vehicle for 2025. Kickstarter.com is arguably one of the most famous e-commerce crowdfunding sites where visitors invest in start-up companies. Other examples include Caterpillar working with customers to design better machinery, IKEA for designing furniture, Lego Ideas for developing new toys and games, and Pepsico using Super Bowl viewers to build an online video.

Marketing through social media is still in its early stages, and companies are experimenting in hopes of finding a winning formula. Social interactions and customer sentiment are not always easy to manage, presenting new challenges for companies eager to protect their brands. The Interactive Session on Management provides specific examples of companies' social marketing efforts using Facebook and Instagram.

10-4 How has e-commerce affected business-to-business transactions?

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 2020 is estimated to be about $14.5 trillion, with B2B e-commerce (online B2B)

contributing about $6.7 trillion of that amount (U.S. Bureau of the Census, 2019; authors' estimates). By 2022, B2B e-commerce is expected to grow to about $7.3 trillion in the United States.

The process of conducting trade among business firms is complex and requires considerable human intervention; 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, including processing paper, approving purchase decisions, 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 spent annually for procurement processes that could be automated. If even just a portion of interfirm trade were automated and parts of the entire procurement process were assisted by the Internet, 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 and cloud-based B2B solutions.

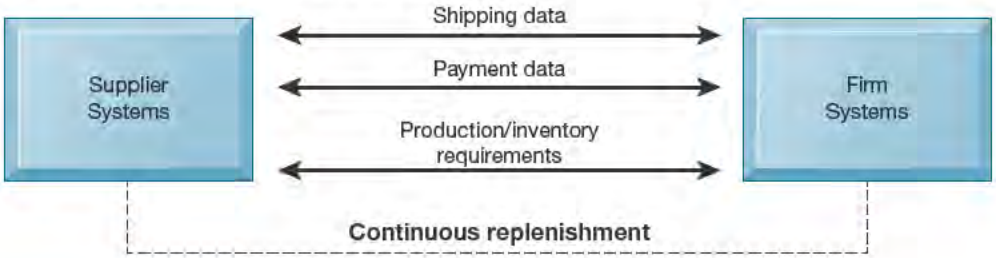
Electronic Data Interchange (EDI)

B2B e-commerce refers to the commercial transactions that occur among business firms. Increasingly, these transactions are flowing through a variety of Internet-enabled mechanisms. About 80 percent of online B2B e-commerce in the United States is still based on proprietary systems for **Electronic Data Interchange (EDI)**. EDI 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 transactions for that industry.

EDI originally automated the exchange of documents such as purchase orders, invoices, and shipping notices. Although many 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 10.6).

FIGURE 10.6 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.



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 can extend digital technology to a wider range of activities and broaden their circle of trading partners.

Procurement, for example, 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 lowest-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.

New Ways of B2B Buying and Selling

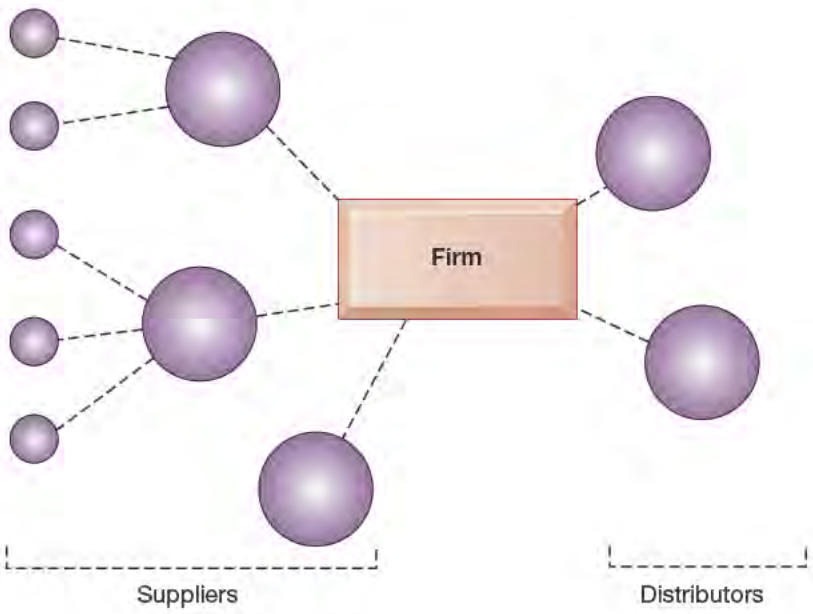
The Internet and web technology enable businesses to create electronic storefronts for selling to other businesses using the same techniques as used for B2C commerce. Alternatively, businesses can use Internet technology to create extranets or electronic marketplaces for linking to other businesses for purchase and sale transactions.

Private industrial networks typically consist of a large firm using a secure website to link to its suppliers and other key business partners (see Figure 10.7). The buyer owns the network, 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 email. 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.

FIGURE 10.7 A PRIVATE INDUSTRIAL NETWORK

A private industrial network, also known as a private exchange, links a firm to its suppliers, distributors, and other key business partners for efficient supply chain management and other collaborative commerce activities.



Net marketplaces, which are sometimes called e-hubs, provide a single, digital marketplace based on Internet technology for many buyers and sellers (see Figure 10.8). They are industry-owned or operate as independent intermediaries between buyers and sellers. Net marketplaces generate revenue from purchase and sale transactions 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 types of Net marketplaces and ways of classifying them. Some 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 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 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 125,000 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

FIGURE 10.8 A NET MARKETPLACE

Net marketplaces are online marketplaces where multiple buyers can purchase from multiple sellers.

industrial equipment, and they primarily deal with direct inputs. For example, Go2Paper enables a spot market for paper, board, and craft among buyers and sellers in the paper industries from more than 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.

10-5 What is the role of m-commerce in business, and what are the most important m-commerce applications?

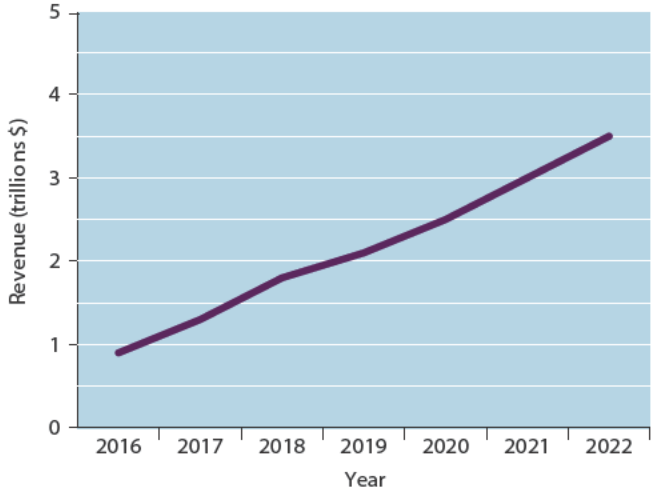
In 2020, retail m-commerce worldwide will account for 65 percent of all retail e-commerce, with about $2.54 trillion in annual revenues. Retail m-commerce is the fastest-growing form of e-commerce, expanding at a rate of more than 15 percent a year, and it is estimated that it will grow to $4 trillion worldwide by 2023 (see Figure 10.9) (eMarketer, 2020b).

The main areas of growth in mobile e-commerce are mass market retailing such as Amazon; sales of digital content such as music, TV shows, movies, and e-books; and in-app sales to mobile devices. On-demand firms such as Uber and Airbnb are location-based services, and examples of mobile commerce as well. Larger mobile screens and more-convenient payment procedures also play a role in the expansion of m-commerce.

FIGURE 10.9 MOBILE RETAIL COMMERCE REVENUES WORLDWIDE

Mobile e-commerce is the fastest-growing type of B2C e-commerce. By 2021, m-commerce retail sales are expected to account for over 66 percent of total e-commerce retail sales.

Sources: Data from eMarketer. Retail Mcommerce Sales, by Country." (September 2020).



Location-Based Services and Applications

Location-based services include geosocial, geoadvertising, and geoinformation services. Seventy-four percent of smartphone owners use location-based services. What ties these activities together and is the foundation for mobile commerce is the global positioning system (GPS)–enabled map services available on smartphones. A **geosocial service** can tell you where your friends are meeting. **Geoadvertising services** can tell you where to find the nearest Italian restaurant, and **geoinformation services** can tell you the price of a house you are looking at or about special exhibits at a museum you are passing. In 2020, the fastest-growing and most popular location-based services are on-demand economy firms such as Uber, Lyft, Airbnb, and hundreds more that provide services to users in local areas and are based on the user's location (or, in the case of Airbnb, the user's intended travel location).

Waze is an example of a popular, social geoinformation service. Waze is a GPS-based map and navigational app for smartphones, now owned by Google. Waze locates the user's car on a digital map using GPS and, like other navigation programs, collects information on the user's speed and direction continuously. What makes Waze different is that it collects traffic information from users who submit accident reports, speed traps, landmarks, street fairs, protests, and even addresses. Waze uses this information to come up with suggested alternative routes, travel times, and warnings and can even make recommendations for gas stations along the way. The Waze app is used extensively by Uber and Lyft drivers and more than 130 million other drivers in the United States.

Foursquare and new offerings by Facebook and Google are examples of geosocial services. Geosocial services help you find friends, or your friends to find you, by checking in to the service and announcing your presence in a restaurant or other place. Your friends are instantly notified.

Foursquare provides a location-based social networking service to over 55 million registered individual users, who can connect with friends, update their location, and provide reviews and tips for enjoying a location. Points are awarded for checking in at designated venues. Users choose to post their check-ins on their accounts on Twitter, Facebook, or both. Users also earn badges by checking in at locations with certain tags, for check-in frequency, or for the time of check-in.

Connecting people to local merchants in the form of geoadvertising is the economic foundation for mobile commerce. Geoadvertising sends ads to users based on their GPS locations. Smartphones report their locations back to Google and Apple. Merchants buy access to these consumers when they come within range of a merchant. For instance, Kiehl Stores, a cosmetics retailer, sent special offers and announcements to customers who came within 100 yards of their store.

Other Mobile Commerce Services

Banks and credit card companies have developed services that let customers manage their accounts from their mobile devices. In the UK, HSBC and NatWest customers can use their cell phones to check account balances, transfer funds, and pay bills. Apple Pay for the iPhone and Apple Watch, along with other Android and Windows smartphone apps, allow users to charge items to their credit card accounts with a swipe of their phone. (See our Learning Track on e-commerce payment systems.)

The mobile advertising market is the fastest-growing online ad platform, racking up an estimated $246 billion in ad revenue worldwide in 2020 and forecast to grow at an average of almost 15 percent over the next several years (eMarketer, 2020e). Ads eventually move to where the eyeballs are, and increasingly

that means mobile devices. Facebook/Instagram is the largest mobile advertising market worldwide, generating over $75 billion from mobile ads (95 percent of its total ad revenue), with Google (including YouTube) just behind at $73 billion (about 68 percent of its total digital ad business). Google displays ads linked to mobile phone searches; ads are embedded in games, videos, and other mobile applications.

Shopkick is a mobile application that enables retailers such as Best Buy, Sports Authority, and Macy's to offer coupons to people when they walk into their stores. The Shopkick app automatically recognizes when the user has entered a partner retail store and offers a new virtual currency called kickbucks, which can be redeemed for store gift cards.

Forty seven percent of top U.S. retailers now have m-commerce websites—simplified versions of their websites that enable shoppers to use cell phones to shop and place orders. Virtually all large traditional and online retailers such as Sephora, Home Depot, Amazon, and Walmart have apps for m-commerce sales.

Mobile App Payment Systems

Many of the current FinTech applications are mobile app payment systems, which use mobile apps to replace credit cards and traditional banking services. There are three main types of mobile payment apps (see Table 10.8). Near-field

TABLE 10.8 TYPES OF MOBILE APP PAYMENT SYSTEMS

TYPE OF MOBILE APP PAYMENT SYSTEM	DESCRIPTION	EXAMPLES
Near Field Communication (NFC)	Uses near field communication (NFC) chips in both payers' mobile devices and merchants' point-of-sale (POS) reader devices. When close together and activated, these NFC chips exchange encrypted data to complete a payment. Can be used with many different merchants if they use NFC readers and software for accepting payments.	Apple Pay, Google Pay, Samsung Pay
QR Code	Uses a two-dimensional barcode in which information is encoded to perform contactless transactions using a code-scanning and generation app on a smartphone and a compatible merchant device. After a merchant enters the payment amount, the customer opens an app that displays a QR code generated for the transaction. The merchant scans the code, and the payment amount is deducted from the customer's mobile wallet. Alternatively, the customer opens the app and scans a QR code displayed by the merchant, enabling the app to identify the merchant. The customer then supplies the amount and completes the payment.	Tesco, Walmart, Dunkin Donuts
Peer-to-peer (P2P) payment system	Allows individuals to transfer funds from their bank accounts to other accounts on the same platform via the Internet. P2P users establish a secure account with a trusted third-party vendor, designating their bank account or credit card account to send and accept funds. Using the third-party app, users can send money to another person or to a merchant's account. Users are generally identified by their email address or mobile phone number.	Venmo, Zelle

communication (NFC)-driven systems enable NFC-enabled smartphones and other mobile devices to make contactless payments by communicating with a NFC-enabled reader at a merchant's point-of-sale (POS) terminal in close physical proximity. (Review the discussion of radio-frequency identification [RFID] and near field communication [NFC] in Chapter 7.) Apple Pay and Google Pay are examples. QR Code payment systems, such as Walmart Pay, use a contactless payment method where a payment is performed by scanning a two- dimensional barcode called a QR (Quick Response) code using a mobile app on the payer's smartphone. Peer-to-peer (P2P) payment systems such as Venmo or Zelle are used for transferring money among individuals who have installed a proprietary app.

10-6 What issues must be addressed when building an e-commerce presence?

Building a successful e-commerce presence requires a keen understanding of business, technology, and social issues as well as a systematic approach. Today, an e-commerce presence is not just a corporate website but also includes a social network site on Facebook/Instagram, a Twitter feed, and smartphone apps where customers can access your services. Developing and coordinating all these customer venues can be difficult. 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, 2020). The two most important management challenges in building a successful e-commerce presence are (1) developing a clear understanding of your business objectives and (2) knowing how to choose the right technology to achieve those objectives.

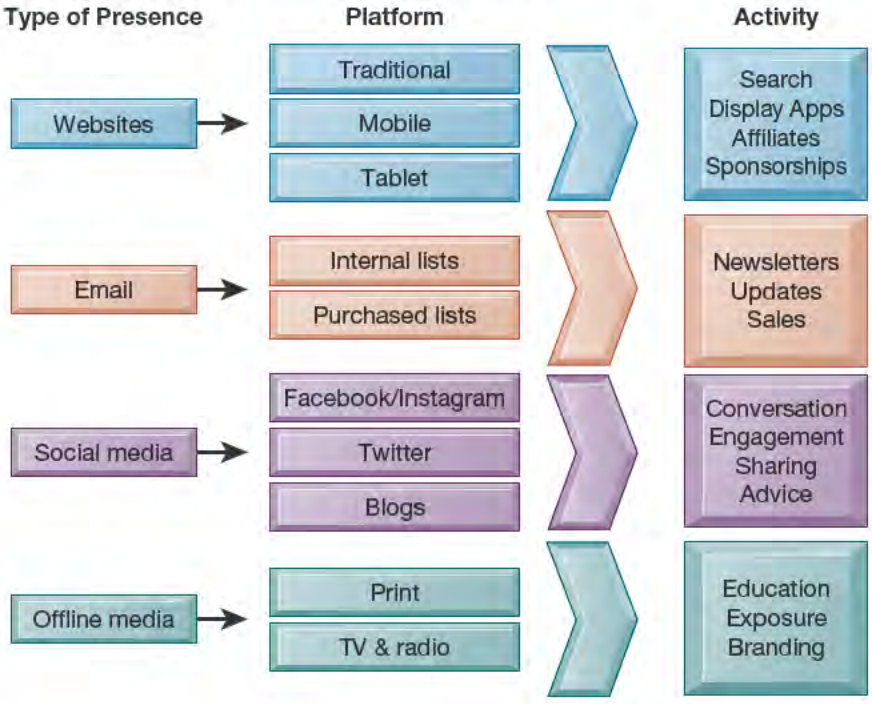
Develop an E-commerce Presence Map

E-commerce has moved from being a PC-centric activity on the web to a mobile and tablet-based activity. Currently, a majority of Internet users in the United States use smartphones and tablets to shop for goods and services, look up prices, enjoy entertainment, and access social sites, less so to make purchases. Your potential customers use these various devices at different times during the day and involve themselves in different conversations, depending on what they are doing—touching base with friends, tweeting, or reading a blog. Each of these is a touch point where you can meet the customer, and you have to think about how you develop a presence in these different virtual places. Figure 10.10 provides a roadmap to the platforms and related activities you will need to think about when developing your e-commerce presence.

Figure 10.10 illustrates four kinds of e-commerce presence: websites, email, social media, and offline media. You must address different platforms for each of these types. For instance, in the case of website presence, there are three platforms: traditional desktop, tablets, and smartphones, each with different capabilities. Moreover, for each type of e-commerce presence, there are related activities you will need to consider. For instance, in the case of websites, you will want to engage in search engine marketing, display ads, affiliate programs, and sponsorships. Offline media, the fourth type of e-commerce presence, is included here because many firms use multiplatform or integrated marketing by which print ads refer customers to websites.

FIGURE 10.10 E-COMMERCE PRESENCE MAP

An e-commerce presence requires firms to consider the four types of presence, with specific platforms and activities associated with each.



Develop a Timeline: Milestones

Where would you like to be a year from now? It's very helpful for you to have a rough idea of the time frame for developing your e-commerce presence when you begin. You should break your project down into a small number of phases that could be completed within a specified time. Table 10.9 illustrates a one-year timeline for the development of an e-commerce presence for a start-up company devoted to fashions for teenagers. You can also find more detail about developing an e-commerce website in the Learning Tracks for this chapter.

TABLE 10.9 E-COMMERCE PRESENCE TIMELINE

PHASE	ACTIVITY	MILESTONE
Phase 1: Planning	Envision web presence; determine personnel.	Web mission statement
Phase 2: Website development	Acquire content; develop a site design; arrange for hosting the site.	Website plan
Phase 3: Web implementation	Develop keywords and metatags; focus on search engine optimization; identify potential sponsors.	A functional website
Phase 4: Social media plan	Identify appropriate social platforms and content for your products and services.	A social media plan
Phase 5: Social media implementation	Develop Facebook/Instagram, Twitter, and Pinterest presence.	Functioning social media presence
Phase 6: Mobile plan	Develop a mobile plan; consider options for porting your website to smartphones.	A mobile media plan