Overview of Electronic Commerce 1

Contents

Learning Objectives

Upon completion of this chapter, you will be able to:

1. Define electronic commerce (EC) and describe its various categories.
2. Describe and discuss the content and framework of EC.
3. Describe the major types of EC transactions.
4. Describe the drivers of EC.
5. Discuss the benefits of EC to individuals, organizations, and society.
6. Discuss e-commerce 2.0 and social media.
7. Describe social commerce and social software.
8. Understand the elements of the digital world.
9. Describe the major environmental business pressures and organizational responses.
10. Describe some EC business models.
11. List and describe the major limitations of EC.

OPENING CASE: HOW STARBUCKS IS CHANGING TO A DIGITAL AND SOCIAL ENTERPRISE

Starbucks is the world's largest coffee house chain, with about 20,800 stores in 63 countries (see Loeb 2013). Many people view Starbucks as a traditional store where customers drop in, enter

Electronic supplementary material The online version of this chapter (doi: 10.1007/978-3-319-10091-3_1) contains supplementary material, which is available to authorized users

E. Turban et al., *Electronic Commerce: A Managerial and Social Networks Perspective*, Springer Texts in Business and Economics, DOI 10.1007/978-3-319-10091-3_1,

an order, pay cash or by credit card for coffee or other products, consume their choices in the store, and go on about their business. The last thing many people think about is the utilization of computers in this business. The opposite is actually true. Starbucks is turning itself into a digital and social company (Van Grove 2012).

For a long time Starbucks was known as appealing to young people because the free WiFi Internet access provided in its U.S. and Canada stores. But lately the company embarked on several digital initiatives to become a truly technology-savvy company.

THE PROBLEM

Starting in 2007, the company's operating income declined sharply (from over $1 billion in 2007 to $504 million in 2008 and $560 million in 2009). This decline was caused by not only the economic slowdown, but also by the increased competition (e.g., from Green Mountain Coffee Roasters), which intensified even during the recession. Excellent coffee and service helped but only in the short run. A better solution was needed.

Starbucks realized that better interaction with its customers is necessary and decided to solve the problem via digitization.

THE SOLUTION: GOING DIGITAL AND SOCIAL

In addition to traditional measures to improve its operation and margin, the company resorted to *electronic commerce*, meaning the use of computerized systems to conduct and support its business. The company appointed a Senior Executive with the title of Chief Digital Officer to oversee its digital activities. It also created the Digital Venture Group to conduct the technical implementation.

The Electronic Commerce Initiatives

Starbucks deployed several e-commerce projects, the major ones are follow.

Online Store

Starbucks sells a small number of products online at **starbucksstore.com**. These offerings include coffee, tea, and Starbucks equipment and merchandise. The store was in operation for years, using typical shopping cart (called My Bag), but the company completely redesigned the webstore to make shopping more convenient and easy in August 2011. In addition, customers (individual or companies) can schedule deliveries of standard and special items. Customers can order rare and exquisite coffee that is available only in some U.S. stores. Now customers around the U.S. and the world can enjoy it too. Finally, online customers get exclusive promotions.

The eGift Card Program

Customers can buy Starbucks customized gift cards digitally (e.g., a gift card for a friend's birthday is auto delivered on the desired date). Payments can be made with a credit card or PayPal. The gift card is sent to the recipient via e-mail or Facebook.

The recipients can print the card and go shopping at a Starbucks physical store, transfer the gift amount to their Starbucks' payment card, or to Starbuck Card Mobile.

Loyalty Program

Like airlines and other vendors, the company offers a Loyalty Program (My Starbucks Rewards). Those who reach the gold level receive extra benefits. The program is managed electronically.

Mobile Payments

Customers can pay at Starbucks stores with prepaid (stored value) cards, similar to those used in transportation, or conduct smartphone payments.

Paying from Smartphones

Starbucks customers can also pay for purchases in physical stores with their mobile devices. Payments can be made by each of two technologies:

- ***Using Starbucks mobile card.*** Shoppers have an app on their mobile device. Payment is made by selecting "touch to pay" and holding up the barcode on the device screen to a scanner at the registrar. The system is connected

automatically to a debit or credit card. The system works only in the company-owned store.

- ***Using Square mobile payment.*** The Square revolutionary system (Chapter 11) allows merchants to accept credit or debit card payments by attaching a small device (a card reader) to their Internet-enabled mobile device (e.g., iPad, iPhone). The merchant then swipes the customer's credit (or debit) card to get immediate approval. The cost to the Starbucks stores is significantly lower than when the company uses traditional credit card services. For details see Magid (2012).

The Social Media Projects

Starbucks realized the importance of social media that uses Internet-based systems to support social interactions and user involvement and engagement (Chapter 7). Thus, it started several initiatives to foster customer relationships based on the needs, wants, and preferences of its existing and future customers. The following are some representative activities.

Exploiting Collective Intelligence

Mystarbucksidea.com is a platform in which a community of over 300,000 consumers and employees can make improvement suggestions, vote for the suggestions, ask questions, collaborate on projects, and express their complaints and frustrations. The community generated 70,000 ideas in its first year, ranging from thoughts on the company's rewards cards and elimination of paper cups to ways to improve customer service. The site also provides statistics on the ideas generated, by category, as well as their status (under review, reviewed, in the works, and launched). The company may provide incentives for certain generated ideas. For example, in June 2010, Starbucks offered $20,000 for the best idea concerning the reuse of its used coffee cups. This initiative is based on the technology of *collective intelligence* also known as *crowdsourcing* (see Chapters 2 and 8) and it is supported by the following blog.

Starbucks Idea in Action Blog

This blog is written by employees who discuss what the company is doing about ideas submitted to MyStarbucksIdea site.

Starbucks' Activities on Facebook

Fully integrated into Facebook, Starbucks practices several social commerce activities there. The site was built with input from Starbucks customers. The company uploads videos, blog posts, photos, promotions, product highlights, and special deals. The millions of people who like Starbucks on Facebook verify that it is one of the most popular companies on Facebook with about 36 million followers (February 2014), see current statistics at **starcount.com/chart/wiki/Starbucks/today** and at **facebook.com/starbucks**. Starbucks offers one of the best online marketing communication experiences on Facebook to date as well as mobile commerce engagements. Starbucks posts information on its Facebook "wall" whether it is content, questions, or updates. The company is also advertising on its Facebook homepage. Note that Starbucks is assessing the cost-benefit of such advertising.

Starbucks' Presence in LinkedIn and Google+

Starbucks has a profile on the LinkedIn site with over 50,000 followers (July 2012). It provides business data about the company, lists new hires in managerial positions, and advertises available managerial jobs. Starbucks is also active on Google+.

Starbucks Actions on Twitter

In February 2014, Starbucks had over 2.2 million followers (Follow@starbucks) on Twitter organized in 18,025 lists (e.g., @starbucks/friends). Each 'list' has its own followers and tweets. Whenever the company has some new update or marketing campaign, the company encourages conversation on Twitter. By October 2013, Starbucks was the number one retailer to follow Twitter. As of November 2013, Starbucks sends $5 gift cards to Twitter friends and followers.

Starbucks' Activities on YouTube, Flickr, and Instagram

Starbucks has a presence on both YouTube (**youtube.com/starbucks** and Flickr (**flickr.com/starbucks**, with a selection of videos and photos for view. It also runs advertising campaigns there. Finally, Starbucks has about 250,000 followers on the photo-sharing company-Instagram (**instagram.com**).

Starbucks Digital Network

To support its digital activities the company offers online content using Starbucks Digital Network in partnership with major media providers (e.g., *New York Times*, iTunes). It is designed for all major mobile devices including tablets (e.g., iPad) and smartphones. The network's content features news, entertainment, business, health, and local neighborhood information channels.

Early Adoption of Foursquare: A Failure

Not all Starbucks social media projects were successes. For example, the company decided to be an early adopter of geolocation by working with Foursquare (Chapter 7). The initiative simply did not work, and the project ended in mid-2010 (see Teicher 2010 for an analysis of the reasons). The company experimented in the UK with a similar location company called Placecast. As of fall 2011, Starbucks had a better understanding of the opportunities and the limitations, so it may decide to try geolocation again with Facebook's Places, or it may revive the Foursquare project.

THE RESULTS

According to Bryson-York (2010), Starbucks turned around sales by effectively integrating the digital and the physical worlds. In 2010, its operating income almost tripled ($1.437 billion versus $560 million in 2009) and so did its stock price. In 2011, the operating income reached $1.7 billion. Since then the operating income is increasing rapidly.

The company's social media initiatives are widely recognized. In 2012 it was listed by *Fortune Magazine* as one of top social media stars (Fortune 2012), and in 2008 it was awarded the 2008 Groundswell Award by Forrester Research. The site is very popular on Facebook where it has millions of fans, (sometimes more popular than pop icon Lady Gaga). Starbucks attributes its success to 10 philosophical guidelines that drive its social media efforts (see Belicove 2010 for details).

Sources: Based on Belicove (2010), Bryson-York (2010), Callari (2010), Van Grove (2012), Loeb (2013), Gembarski (2012), Marsden (2010),Teicher (2010), Walsh (2010), **mystarbucks.force.com**, and **blogs.starbucks.com** (both accessed May 2014).

LESSONS LEARNED FROM THE CASE

The Starbucks case illustrates the story of a large retailer that is converting to be a digital and social enterprise. Doing business electronically is one of the major activities of e-commerce, the subject of this book. The case demonstrates several of the topics you will learn about in this chapter and throughout the book. These are:

1. There are multiple activities in EC including selling online, customer service, and collaborative intelligence.
2. The case shows major benefits both to buyers and sellers. This is typical in EC.
3. The EC capabilities include the ability to offer products and services in many locations, including overseas to many customers, individuals, and businesses. You can do so because online your customer base is huge, and people can buy from anywhere at any time.
4. In a regular store you pay and pick up the merchandise or service. In Starbucks and other webstores you order, pay, and the product is shipped to you. Therefore, order fulfillment needs to be very efficient and timely.
5. Being a digital enterprise can be very useful, but a greater benefit can be achieved by extending it to be socially-oriented enterprise. Both approaches constitute the backbone of electronic commerce, the subject of this book.

In this opening chapter, we describe the essentials of EC, some of which were presented in this case. We also presented some of the drivers and benefits of EC and explain their impact on the technology. Special attention is provided to the emergence of the social economy, social networks, and social enterprises. Finally, we describe the outline of this book.

1.1 ELECTRONIC COMMERCE: DEFINITIONS AND CONCEPTS

As early as 2002, the management guru Peter Drucker (2002) forecasted that e-commerce (EC) would significantly impact the way that business is done. And indeed the world is embracing EC, which makes Drucker's prediction a reality.

Defining Electronic Commerce

Electronic commerce (EC) refers to using the Internet and intranets to purchase, sell, transport, or trade data, goods, or services. For an overview, see Plunkett et al. (2014). Also watch the video titled

"What is E-Commerce?" at **youtube.com/watch?v=3wZw2IRb0Vg**. EC is often confused with e-business, which is defined next.

Defining E-Business

Some people view the term *commerce* as describing only buying and selling transactions conducted between business partners. If this definition of commerce is used, the term *electronic commerce* would be fairly narrow. Thus, many use the term *e-business* instead. **E-business** refers to a broader definition of EC, not just the buying and selling of goods and services, but conducting all kinds of business online such as servicing customers, collaborating with business partners, delivering e-learning, and conducting electronic transactions within an organization. However, others view e-business only as comprising those activities that do not involve buying or selling over the Internet, such as collaboration and intra-business activities; that is, it is a *complement* of the narrowly defined e-commerce. In its narrow definitions e-commerce can be viewed as a subset of e-business. In this book, we use the broadest meaning of electronic commerce, which is basically equivalent to the broadest definition of e-business. The two terms will be used interchangeably throughout the text.

Major EC Concepts

Several other concepts are frequently used in conjunction with EC. The major ones are as follows.

Pure Versus Partial EC

EC can be either pure or partial depending on the nature of its three major activities: ordering and payments, order fulfillment, and delivery to customers. Each activity can be physical or digital. Thus, there are eight possible combinations as shown in Table 1.1. If all activities are digital, we have pure EC, if none is digital we have no EC, otherwise we have partial EC.

If there is at least one digital dimension, we consider the situation EC, but only partial EC. For example, purchasing a computer from Dell's website or a book from Amazon.com is partial EC, because the merchandise is physically delivered. However, buying an e-book from Amazon.com or a software product from Buy.com is pure EC, because ordering, processing, and delivery to the buyer are all digital. Note that many companies operate in two or more of the classifications. For example, Jaguar has a 3D application for self configuration of cars online, prior to shopping (see Vizard 2013). For a video titled "Introduction to E-Commerce" see **plunkettresearch.com/video/ecommerce**.

EC Organizations

Purely physical organizations (companies) are referred to as **brick-and-mortar** (or **old economy**) **organizations**, whereas companies that are engaged only in EC are considered **virtual (pure-play) organizations. Click-and-mortar** (**click-and-brick**) **organizations** are those that conduct

Table 1.1 Classifications of E-Commerce

Activity	1	2	3	4	5	6	7	8
Ordering, Payment	P	D	D	D	D	P	P	P
Order fulfillment	P	D	D	P	P	D	P	D
Delivery (shipment)	P	D	P	P	D	D	D	D
Type of EC	Non EC	Pure EC	Partial EC					

Legend: *P* physical, *D* digital

some EC activities, usually as an additional marketing channel. Gradually, many brick-and-mortar companies are changing to click-and-mortar ones (e.g., GAP, Target).

Electronic Markets and Networks

EC can be conducted in an **electronic market (e-marketplace)**, an online location where buyers and sellers conduct commercial transaction such as selling goods, services, or information. Any individual can also open a market selling products or services online. Electronic markets are connected to sellers and buyers via the Internet or to its counterpart within organizations, an *intranet*. An **intranet** is a corporate or government internal network that uses Internet tools, such as Web browsers and Internet protocols. Another computer environment is an **extranet**, a network that uses Internet technology to link intranets of several organizations in a secure manner (see Online Tutorial T2).

SECTION 1.1 REVIEW QUESTIONS

1. Define EC and e-business.
2. Distinguish between pure and partial EC.
3. Define click-and-mortar and brick-and-mortar organizations.
4. Define electronic markets.
5. Define intranets and extranets.

1.2 THE ELECTRONIC COMMERCE FIELD: GROWTH, CONTENT, CLASSIFICATION, AND A BRIEF HISTORY

According to the U.S. Census Bureau (2013), e-commerce sales in 2011 accounted for 49.3% of total sales of all manufacturing activities in the United States, 24.3% of merchant wholesalers, 4.7% of all retailing, and 2% of all sales in selected service industries. The grand total of EC 2010 has been $3,545 billion, of which $3,161 billion was B2B (89%) and $385 billion was B2C (11%). The results over 9 years are shown in Figure 1.1. Notice the sharp increase in manufacturing compared to other sectors. Also note that EC is growing much faster than the total of all commerce by about 16–17% annually. For a more detailed breakdown, see the U.S. Census Bureau (2013) report as well as Plunkett et al. (2014).

There is a clear trend that online retail sales are taking business from traditional retailers. Knight (2013) reported that during the 2009–2013 economic difficulty EC sales reached double-digit growth. For example, Wilfred (2014) reported that during the 2013 holiday shopping season online shopping grew 10% a year versus 2.7% of traditional retailers.

According to *Ecommerce Europe*, September 5, 2012, European online retail sales will double to €323 billion in 5 years (2018).

The Content and Framework of E-Commerce

Classifying e-commerce aids understanding of this diversified field. In general, selling and buying electronically can be either business-to-consumer (B2C) or business-to-business (B2B). Online transactions are made between businesses and individual consumers in B2C, such as when a person purchases a coffee at **starbucksstore.com** or a computer at **dell.com** (see Online File W1.1). In B2B, business transactions are made online with other businesses, such as when Dell electronically buys parts from its suppliers. Dell also collaborates electronically with its partners and provides customer service online e-CRM (see Online Tutorial T1). Several other types of EC will be described later in this chapter.

According to the U.S. Census Bureau (2013), the total EC shipments grew 16.5% in a year, ComScore report (cited by BizReport 2012) that U.S. retail commerce online increase 17% in QI 2012 as compared to a year earlier. EC is growing in all areas. For example, Leggatt (2012) reported that in the UK Domino's Pizza online sales grew about 1,000% between 2000 and 2012. Similar results can be found in many industries, companies, and countries (e.g., see periodic reports at

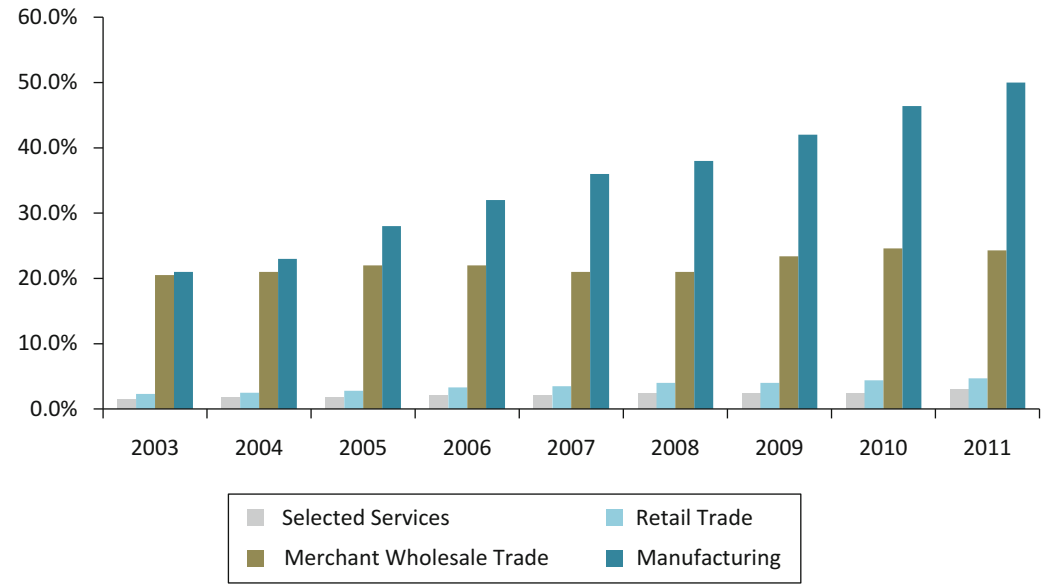

Figure 1.1 E-Commerce as percent of total value: (2003–2011) (Source: Census.gov/estats Accessed February 2014)

ComScore and Bizreport) and Ahmad (2014, an Infographic). E-Commerce is exploding globally. According to a press release of **ecommerce-europe.eu/press** of May 23, 2003, European e-commerce grew by 19% in 2012 reaching €312 billion. According to Stanley and Ritacca (2014), e-commerce in China is exploding, reaching $600 billion by the end of 2013. Finally, in several developing countries EC is becoming a major economic asset (e.g., see Maitra 2013 for information on India).

An EC Framework

The EC field is diverse involving many activities, organizational units, and technologies. Therefore, a framework that describes its contents can be useful. Figure 1.2 introduces one such framework.

As shown in the figure, there are many EC applications (top of figure), which will be illustrated throughout the book. To perform these applications, companies need the right information, infrastructure, and support services. Figure 1.2 shows that EC applications are supported by infrastructure and by the following five support areas (shown as pillars in the figure):

1. **People.** Sellers, buyers, intermediaries, information systems and technology specialists, other employees, and any other participants.
2. **Public policy.** Legal and other policy and regulatory issues, such as privacy protection and taxation, which are determined by governments. Included are technical standards and compliance.
3. **Marketing and advertising.** Like any other business, EC usually requires the support of marketing and advertising. This is especially important in B2C online transactions, in which the buyers and sellers usually do not know each other.
4. **Support services.** Many services are needed to support EC. These range from content creation to payments to order delivery.
5. **Business partnerships.** Joint ventures, exchanges, and business partnerships of various types are common in EC. These occur frequently throughout the *supply chain* (i.e., the interactions between a company and its suppliers, customers, and other partners).

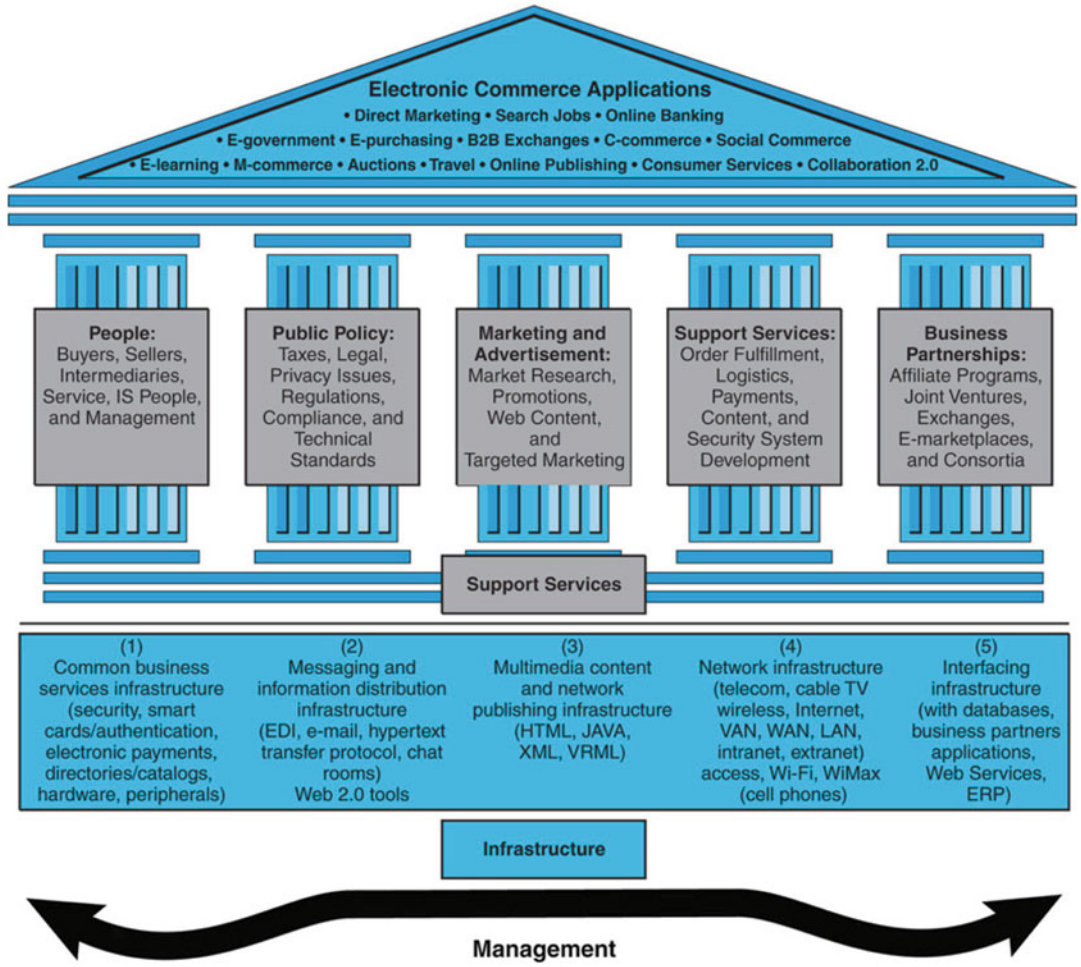

Figure 1.2 A framework for electronic commerce

The infrastructure for EC is shown at the bottom of the figure. *Infrastructure* describes the hardware, software, and networks used in EC. All of these components require good *management practices*. This means that companies need to plan, organize, motivate, devise strategy, and restructure processes, as needed, to optimize the business use of EC models and strategies.

Classification of EC by the Nature of the Transactions and the Relationships Among Participants

Note: Several of the following definitions are similar to that of Katic and Pusara (2004), whose EC terminology is based on the 2003 edition of this book.

A common classification of EC is by the type of the transactions and the transacting members. The major types of EC transactions are listed below.

Business-to-Business (B2B)

Business-to-business (B2B) EC refers to transactions between and among organizations. Today, about 85% of EC volume is B2B. For Dell, the entire wholesale transaction is B2B. Dell buys most of its parts through e-commerce, and sells its products to businesses (B2B) and individuals (B2C) using e-commerce.

Business-to-Consumer (B2C)

Business-to-consumer (B2C) EC includes retail transactions of products or services from businesses to individual shoppers. The typical shopper

at Amazon.com is of this type. Since the sellers are usually retailers, we also call this type **e-tailing**.

Business-to-Business-to-Consumer (B2B2C)

In **business-to-business-to-consumer (B2B2C)** EC, a business (B1) sells a product to another business (B2). B2 then sells, or gives away, the product to individuals who may be B2's own customers or employees. An example is **godiva.com**. The company sells chocolates directly to business customers. Those businesses may then give the chocolates as gifts to employees or business partners. Godiva may mail the chocolate directly to the recipients (with compliments of…). Another interesting example of B2B2C can be found at **wishlist.com.au**. Finally, Starbucks sells branded stored value cards to companies to give as gifts to their employees or customers.

Consumer-to-Business (C2B)

In **consumer-to-business (C2B)**, people use the Internet to sell products or services to individuals and organizations. Alternatively, individuals use C2B to bid on products or services. Priceline.com is a well-known organizer of C2B travel service transactions.

Intrabusiness EC

The **intrabusiness EC** category refers to EC transactions among various organizational departments and individuals.

Business-to-Employees (B2E)

The **business-to-employees (B2E)** category refers to the delivery of services, information, or products from organizations to their employees. A major category of employees is *mobile employees*, such as field representatives or repair services that go to customers. EC support to such employees is also called *business-to-mobile employees (B2ME).*

Consumer-to-Consumer (C2C)

In the **consumer-to-consumer (C2C)** EC category individual consumers sell to or buy from other consumers. Examples of C2C include individuals selling computers, musical instruments, or personal services online. EBay auctions are mostly C2C as are the ads in Craigslist.

Collaborative Commerce

Collaborative commerce (c-commerce) refers to online activities and communications done by parties working to attain the same goal. For example, business partners may design a new product together.

E-Government

In **e-government** EC, a government agency buys or provides goods, services, or information from or to businesses (G2B) or from or to individual citizens (G2C). Governments can deal also with other governments (G2G).

The previous categories are illustrated in Figure 1.3. Many examples of the various types of EC transactions will be presented throughout this book.

A Brief History of EC

The pioneering of e-commerce applications can be tracked to the early 1970s when money was transferred electronically, mostly among financial institutions (known as *electronic funds transfer [EFT]*), whereby funds could be routed electronically from one organization to another. However, the use of these applications was limited to large corporations, financial institutions, and a few other daring businesses. Then came *electronic data interchange (EDI)*, a technology used to enable the electronically transfer of routine documents. EDI later expanded from financial transactions to other types of transactions (see Online Tutorial T2 for more on EDI). More new EC applications followed, ranging from travel reservation systems to online stock trading.

The Internet appeared on the scene in 1969, as an experiment by the U.S. government, and its initial users were mostly academic researchers and other scientists. Some users started to place personal classifieds on the Internet. A major milestone in the development of EC was the appearance of the World Wide Web (The "Web") in the early 1990s. This allowed companies to

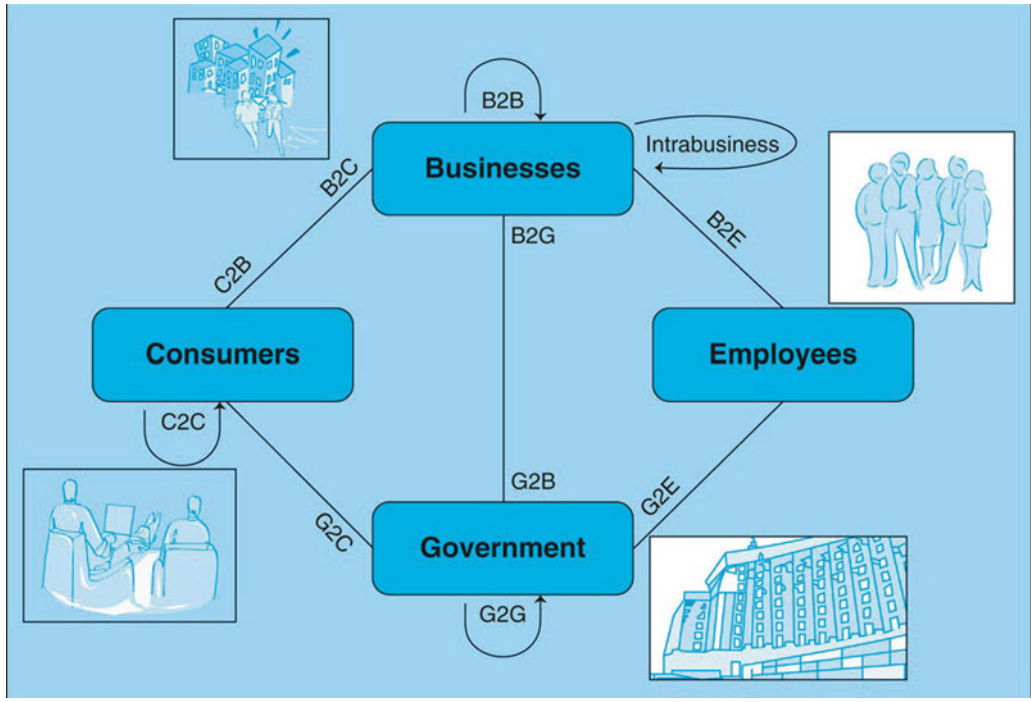

Figure 1.3 Categories of transactions in e-commerce

have a presence on the Internet with both text and photos. When the Internet became commercialized and users began flocking to participate in the World Wide Web in the early 1990s, the term *electronic commerce* was introduced. EC applications rapidly expanded. A large number of so-called dot-coms, or *Internet start-ups*, also appeared. Almost all companies in the developing countries have presence on the Web. Many of these sites contain tens of thousands of pages and links. In 1999, the emphasis of EC shifted from B2C to B2B, and in 2001 from B2B to B2E, c-commerce, e-government, e-learning, and m-commerce. In 2005, social networks started to receive quite a bit of attention, as did m-commerce and wireless applications. As of 2009, EC added social commerce channels. An example is the increasing commercial activities on Facebook and Twitter. Given the nature of technology and Internet usage, EC will undoubtedly continue to grow, add new business models, and change. More and more EC successes are emerging. For a comprehensive ready-reference guide to EC including statistics, trends, and in-depth profiles of hundreds of companies, see Plunkett et al. (2014) and **en.wikipedia.org/wiki/E-commerce**.

While looking at the history of EC, one must keep in mind the following.

The Interdisciplinary Nature of EC

From just the brief overview of the EC framework and classification, you can probably see that EC is related to several different disciplines. The major academic EC disciplines include the following: *accounting, business law, computer science, consumer behavior, economics, engineering, finance, human resource management, management, management information systems, marketing, public administration*, and *robotics*.

The Google Revolution

During its early years, EC was impacted by companies such as Amazon.com, eBay, AOL, and Yahoo!. However, since 2001 no other company has probably had more of an impact on EC than Google. Google related Web searches to targeted

advertisements much better than its competitors did. Today, Google is much more than just a search engine; it employs many innovative EC models, is involved in many EC joint ventures, and impacts both organizational activities and individual lives. For more details, see Levy (2011).

Cyber Monday, Single Day

An interesting evidence for the growth of online shopping is the volume of shopping during Cyber Monday in the U.S. and Single Day (11/11) in China. For the magnitude of Single Day in China, in the automotive industry see Li and Han (2013). Also see *Ad Age* Staff (2013).

Social Commerce

The explosion of social media and networks, as well as Web 2.0 tools (e.g., wikis, blogs) resulted in new ways of conducting e-commerce by making it social. Several new and modified EC models were created, rejuvenating the field as described in several chapters in the book especially in Chapters 7 and 8, and in Turban, et al. (2015).

F-Commerce

Given the popularity of Facebook and the rapidly increasing commercial activities conducted on or facilitated by the site, some believe that Facebook is revolutionizing e-commerce especially for small businesses. Thus, they coined the term **f-commerce**, pointing to the increased role of Facebook in the e-commerce field as of 2009 (see Shih 2011).

EC Failures

Starting in 1999, a large number of EC companies, especially e-tailing and B2B exchanges, began to fail. Well-known B2C failures include Drkoop, MarchFirst, eToys, and Boo. Well-known B2B failures include Webvan, Chemdex, Ventro, and Verticalnet. (Incidentally, the history of these pioneering companies is documented by David Kirch in his Business Plan Archive (**businessplanarchive.org**). A survey by Strategic Direction (2005) found that 62% of dot-coms lacked financial skills, and 50% had little experience with marketing. Similarly, many companies failed to have satisfactory order fulfillment and enough inventory to meet the fluctuating and increasing demand for their products. The reasons for these and other EC failures are discussed in Chapters 3, 4, and 14. As of 2008, many start-ups related to Web 2.0 and social commerce started to collapse (see **blogs.cioinsight.com/it-management/startup-deathwatch-20.html**).

Does the large number of failures mean that EC's days are numbered? Absolutely not! First, the dot-com failure rate is declining sharply. Second, the EC field is basically experiencing consolidation as companies test different business models and organizational structures. Third, some pure EC companies, including giants such as Amazon.com and Netflix, are expanding operations and generating increased sales. Finally, the click-and-mortar model seems to work very well, especially in e-tailing (e.g., GAP, Walmart, Target, Apple, HP, and Best Buy).

For supplementary history see **plunkettresearch.com/ecommerce-internet-technology-market-research/industry-and-business-data**.

EC Successes

The last few years have seen the rise of extremely successful EC companies such as eBay, Pandora, Zillow, Google+, Facebook, Yahoo!, Amazon.com, Pay Pal, Pinterest, VeriSign, LinkedIn, and E*TRADE. Click-and-mortar companies such as Cisco, Target, General Electric, IBM, Intel, and Schwab also have seen great success. Additional success stories include start-ups such as Alloy.com (a young-adult-oriented portal), Blue Nile (Chapter 2), Ticketmaster, Net-a-Porter (Case 1.1), Expedia, Yelp, TripAdvisor, and Campusfood (Online File W1.2).

CASE 1.1: NET-A-PORTER: DRESS FOR SUCCESS

Will a woman buy a $2,000 dress online without trying it on? Net-a-Porter (a UK online retailer, known as "the Net") bet on it and proved that today's women will purchase their dresses (for success) online, especially if the luxury clothing and accessories are international brands such as Jimmy Choo or Calvin Klein.

The Opportunity

When talking about e-commerce (EC), most people think about buying online books, vitamins, CDs, or other commodity items. And this indeed was what people bought in the mid-1990s, when EC began. But in 2000, Natalie Massenet, a fashion journalist, saw an opportunity because of the success of luxury online stores such as Blue Nile (see Chapter 2) and the fact that professional women are very busy and willing to do more purchasing online.

The Solution

Natalie decided to open a online business for luxury fashion. She created a comprehensive, socially-oriented e-tailing site, naming it Net-a-Porter.

According to **net-a-porter.com**, Brodie (2009), and Rowe (2010), the company:

- Opened an e-tailing store
- Offered merchandise from over 350 top designers; most offline stores offer few dozen
- Offered its own designs in addition to others
- Arranged global distribution systems to over 170 countries
- Opened physical stores in London and New York to support the online business
- Arranged same day delivery (Chapter 3) in London and New York and overnight delivery elsewhere
- Organized very fast cycle time for producing and introducing new clothes and other products that match customers' preference
- Devised prediction methods of fashion trends based on customer feedback through social media
- Ran online fashion shows
- Developed superb inventory and sales tracking systems based on dashboards (see Chapter 13)
- Offered an online fashion magazine
- Discovered what customers really want via social networks (Chapters 7 and 8) and fulfilled their needs
- Offered large discounts
- Developed a presence on Facebook and app for iPhone
- Has 630,000 followers on Google+ (February 2014)
- Has five million visitors each month (February 2014)
- Experiences 750,000 downloads per month on iPhones
- Started augmented reality shopping windows in several global cities as of 2012 (see **digitalbuzzblog.com/net-a-porter-augmented-reality-shopping-windows**). At this same site you can watch the video "Window Shop" and download the Net-a-Porter iPhone/iPad app.

In 2010, the company started taking advantage of the social media environment that is changing the fashion industry (Rowe 2010).

THE RESULTS

Customers now come from over 170 countries and revenue and profits are increasing rapidly. Several million visitors come to the site every week. The 'Net' become profitable after 1 year, a very rare case in e-tailing. During the economic crisis of 2009, the Net's total sales were up 45%, versus a 14% decrease for one of its major competitors (Neiman Marcus; Web and paper catalog sales). The company was so successful that luxury goods company Richemont Corp. purchased a 93% stake in the business. (Since the company is now part of Richemont, there are no separate financial data for the Net.)

In June 2010 when the company celebrated its 10th anniversary, it opened a new website dedicated to menswear. With success comes competition, and the Net's competitors include Bluefly (low prices), Shopbop (an Amazon.com company,

but it lacks the Net's prestige), and high-end department stores with their own online stores (Nordstrom, Neiman Marcus). But the Net has the highest prestige and growth rate. A major threat may come from eBay, which has been reaching out to high-end designers about creating their own virtual stores (hosted by eBay) where they can sell at fixed prices and also use auctions. Finally, note that in late 2010, Google entered the fashion field of e-commerce with its Boutiques.com, and Amazon.com created MYHABIT that offers designer brands at discount. To stay on top of the competition, the Net is planning new ventures and expanding its business model to include children's clothes. Net-a-Porter is an example of the revolution that is occurring in the fashion industry. Another example is Polyvore whose case is presented in Chapter 7. For details on these new business models see **businessofffashion.com/2012/01/e-commerce-week-the-rise-of-new-business-models**.

Sources: Based on Brodie (2009), Rowe (2010), **en.wikipedia.org/wiki/Net-a-Porter**, and **net-a-porter.com**(both accessed February 2014).

Questions

1. Why would you buy (or not buy) from Net-a-Porter?
2. Watch the video "The Future of Shopping" (**youtube.com/watch?v=_Te-NCAC3a4**). How would you integrate this development with Net-a-Porter?
3. List both the advantages and disadvantages of the Net's physical stores?
4. It is said that the Net is playing a significant role in transforming how designers reach customers. Explain why.
5. Read the benefits of EC to customers (Section 1.3). Which ones are most relevant here?
6. What EC capabilities are helping the Net and its designers?
7. Analyze the competition in the high-end fashion market.
8. What is the importance of globalization in this case?
9. Imitators are springing up on all sides. Even eBay and Amazon.com are expanding their fashion e-tailing efforts. What strategy do you suggest for the Net? (Hint: Read Brodie 2009 to get some ideas.)

SECTION 1.2 REVIEW QUESTIONS

1. List the major components of the EC framework.
2. List the major transactional types of EC.
3. Describe the major landmarks in EC history.
4. List some EC successes and failures.

1.3 DRIVERS AND BENEFITS OF E-COMMERCE

The tremendous explosion of EC can be explained by its drivers and characteristics, benefits, and by changes in the business environment.

The Drivers of E-Commerce

Although EC is only about 20 years old it is expected to have non-stoppable growth and expand consistently into new areas of our life. The question is why? What drives EC?

The Major Drivers of EC

EC is driven by many factors depending on the industry, company, and application involved. The major drivers are shown in the self-explanatory Figure 1.4, together with the section and/or chapter where details are presented.

The Benefits of E-Commerce

There are many benefits of EC and they continue to increase with time. We elected to organize them in three categories:

EC provides benefits to *organizations, individual customers*, and *society*. These benefits are summarized in Table 1.2.

Opportunities for Entrepreneurs

A major benefit of EC is the creation of opportunities to start a business in an unconventional ways. The new business models permit entrepreneurs to

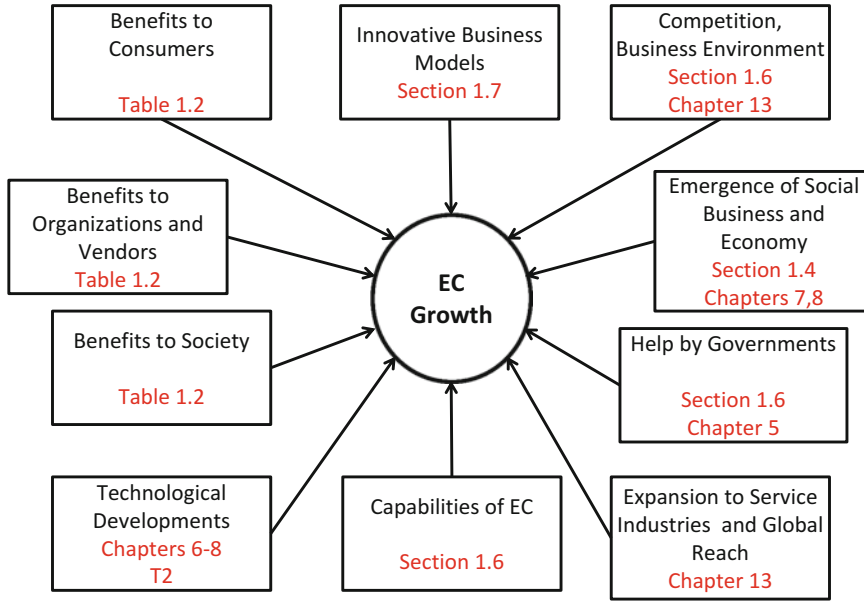

Figure 1.4 The major drivers of e-commerce growth

open businesses with little money and experience and grow them rapidly. Many entrepreneurs are making money some big money online.

Example: Fish Flops

Madison Robinson was a 15-year old ninth grader when she opened the business, both online and offline. She designs the footwear herself. Madison is doing lots of tweeting about Fish Flops. After only 2 years of operation the business became profitable enough to pay Madison's college expenses. For details see Burke (2013).

EC as a Provider of Efficiency, Effectiveness, and of Competitive Advantage

The benefits of EC may result in significant changes in the way business is conducted. These changes may positively impact corporate operations resulting in a competitive advantage for the firms using EC (e.g., see Khosrow-Pour 2013) as well as more efficient governments and nonprofit organizations.

SECTION 1.3 REVIEW QUESTIONS

1. List the major drivers of EC.
2. List five benefits each to customers, organizations, and society.
3. From your knowledge describe some technological developments that facilitate EC.
4. Identify additional benefits to society.

1.4 E-COMMERCE 2.0: FROM SOCIAL COMMERCE TO VIRTUAL WORLDS

The first generation of EC involved mainly trading, e-services, and corporate-sponsored collaboration. Currently, we are moving into the second generation of EC, which we call E-Commerce 2.0. It is based on Web 2.0 tools, social media, social networks, and virtual worlds – all the offspring of social computing.

Social Computing

Social computing refers to a computing system that involves social interactions and behaviors. It is performed with a set of tools that includes blogs, wikis, social network services, and other *social software tools,* and social marketplaces (see Chapter 7). Whereas traditional computing systems concentrate on business processes particularly cost reduction and increases in productivity,

Table 1.2 Benefits of e-commerce

Benefit	Description
Benefits to Organizations	
Global reach	Quickly locating customers and/or suppliers at reasonable cost worldwide
Cost reduction	Lower cost of information processing, storage, and distribution
Facilitate problem solving	Solve complex problems that have remained unsolved.
Supply chain improvements	Reduce delays, inventories, and cost
Business always open	Open 24/7/365; no overtime or other costs
Customization/personalization	Make order for customer preference
Ability to innovate, use new business models	Facilitate innovation and enable unique business models
Lower communication costs	The Internet is cheaper then VAN private lines
Efficient procurement	Saves time and reduces costs by enabling e-procurement
Improved customer service and relationship	Direct interaction with customers, better CRM
Help SME to compete	EC may help small companies to compete against large ones by using special business models
Lower inventories	Using customization inventories can be minimized
Lower cost of distributing digitizable product	Delivery online can be 90% cheaper
Provide competitive advantage	Innovative business models
Benefits to Consumers	
Inventory	Huge selection to choose from (vendor, products, styles)
Ubiquity	Can shop any time from any place
Self configuration	Can self-customize products
Find bargains	Use comparison engine
Real time delivery	Download digital products
No sales tax	Sometimes; changing
Enable telecommuting	Can work or study at home or any place
Social interaction	In social networks
Find unique items	Using online auctions, collectible items can be found
Comfortable shopping	Shop at your leisure without pushy sales clerks bothering you
Benefits to Society	
Enable telecommuting	Facilitate work at home; less traffic, pollution
More public services	Provided by e-government
Improved homeland security	Facilitate domestic security
Increased standard of living	Can buy more and cheaper goods/services
Close the digital divide	Allow people in rural areas and developing countries to use more services and purchase what they really like

social computing concentrates on improving collaboration and interaction among people and on user-generated content. In social computing and commerce, people work together over the Internet, consult with specialists, and locate goods and services recommended by their friends.

Example: Social Computing Helps Travel

Advances in social computing impact travel operations and decisions. Travelers can share good travel experiences or warn others of bad experiences using sites such as **tripadvisor.com**. Special social networks such as WAYN (Chapter 3) are very popular among travelers.

In social computing, information is produced by individuals and is available to all, usually for free. The major implementation tools of social computing are Web 2.0 and social media.

Web 2.0

The term *Web 2.0* was coined by O'Reilly Media in 2004. **Web 2.0** is the second generation of

Internet-based tools and services that enables users to easily generate content, share media, and communicate and collaborate, in innovative ways. (For more details see Edwards 2013.)

O'Reilly divided Web 2.0 into four levels and provided examples of each. For details see Colby (2008). Karakas (2009) views Web 2.0 as a new digital ecosystem, which can be described through five C's: creativity, connectivity, collaboration, convergence, and community.

The major characteristics of Web 2.0 are presented in Online File W1.3. The major tools of Web 2.0 are described in Chapter 2, and the applications are described in most chapters. Also, browse **enterpriseirregulars.com/author/dion** for an open forum about the Internet, society, collective intelligence, and the future. For Web 2.0 definitions, explanations, and applications see Shelly and Frydenberg (2010).

Social Media

The term **social media** has many definitions. A popular definition is that social media involves user generated online text, image, audio, and video content that are delivered via Web 2.0 platforms and tools. The media is used primarily for social interactions and conversations such as to share opinions, experiences, insights, and perceptions and to collaborate online. Therefore, it is a powerful force for socialization. A key element is that users produce, control, and manage content. Additional definitions, descriptions, and references, and a framework are provided in Chapters 2 and 7 and in Turban et al. (2015).

The Difference Between Social Media and Web 2.0

Note that the concept of Web 2.0 is related to the concept of social media, many people equate the two terms and use them interchangeably; however, others see a difference. While social media uses Web 2.0 and its tools and technologies, the social media concept includes the philosophy of connected people, the interactions among them, the social support provided, the digital content that is created by users, and so forth.

Example: How Oprah Is Using Social Media to Build Her Business

According to Smith (2012), Oprah Winfrey is integrating social media activities with everything she does, to encourage interactions of people with different platforms (e.g., Facebook, Twitter). Oprah is rewarding people based on their engagement (e.g., posting comments). She is using Facebook polls, and is getting bloggers involved. Oprah is also actively using Twitter to interact with her followers.

Social Networks and Social Network Services

The most interesting e-commerce application in recent years has been the emergence of social and enterprise social networks. Originating from online communities (Chapter 2), these networks are growing rapidly and providing many new EC initiatives, revenue models, and business models (see **sustainablebrands.com/news_and_views/blog/13-hot-business-model-innovations-follow-2013**).

A **social network** is a social entity composed of nodes (which are generally individuals, groups, or organizations) that are connected by links such as hobbies, friendship or profession. The structures are often very complex.

In its simplest form, a social network can be described by an image of the nodes and links. The network can also be used to describe Facebook's *social graph* (see description at Facebook.com).

Social Networking Services

Social networking services (SNSs), such as LinkedIn and Facebook, provide and host a Web space for people to build their homepages for free. SNSs also provide basic support tools for conducting different activities and allow many vendors to provide apps. Social networks are people oriented.

For example, a 15-year-old Filipino singer named Pempengco and Justin Bieber were discovered on YouTube. Initially, social networks were used solely for social activities. Today, corporations have a great interest in the business aspects of social networks (e.g., see **linkedin.com**, a network that categorizes businesses by geography, functions, industry, and areas of interest).

The following are examples of representative social network services:

- **Facebook.com**: The most visited social network website.
- **YouTube.com** and **metacafe.com**: Users can upload and view video clips.
- **Flickr.com**: Users share and comment on photos.
- **LinkedIn.com**: The major enterprise-oriented social network.
- **Hi5.com**: A popular global social network.
- **Cyworld.nate.com**: Asia's largest social networking website.
- **Habbo.com**: Entertaining country-specific sites for kids and adults.
- **Pinterest.com**: Provides a platform for organizing and sharing images (see the opening case in Chapter 2).
- **Google+**: A business-oriented social network.
- **MySpace.com**: Facilitates socialization and entertainment for people of all ages.

Social Networking

We define **social networking** as the execution of any Web 2.0 activity, such as blogging or having a presence in a social network. It also includes all activities conducted in social networks.

Enterprise Social Networks

Business-oriented social networks can be public, such as LinkedIn.com. As such, they are owned and managed by an independent company. Another type of business-oriented social network is private, owned by corporations and operated inside them. These are known as *enterprise social networks* (e.g., MyStarbucks Idea). These can be directed toward customers or company employees.

Example: A Customer-Oriented Enterprise Social Network

Carnival Cruise Lines sponsors a social networking site (**carnivalconnections.com**) to attract cruise fans. Visitors use the site to exchange opinions, organize groups for trips, and much more. It cost the company $300,000 to set up the site, but the initial cost was covered by increased business within a year.

Social Commerce

E-commerce activities that are conducted in social networks by using social software (i.e., Web 2.0 tools) are referred to as **socialcommerce**). Since 2009, social commerce has been rapidly increasing (see Webster 2010). We will return to social commerce in Chapters 7 and 8.

The following are some examples of social commerce.

- Dell Computer claims to have made $6.5 million by selling computers on Twitter in 2 years (Nutley 2010). Also, Dell generates ideas from community members at its *Idea Storm* site.
- Procter & Gamble sells its Max Factor brand cosmetics through Facebook.
- Disney allows people to book certain tickets on Facebook without leaving the social network.
- PepsiCo gives live notification when its customers are close to physical stores (grocery, restaurants, gas stations) that sell Pepsi products. Then PepsiCo sends them coupons and discount information using Foursquare (see Chapter 7).
- Starbucks is using extensive promotions on Facebook including generating ideas from the members via its My Starbucks Idea website (see the opening case for details).

- Mountain Dew attracts video game lovers and sport enthusiasts via Dewmocracy contests. The company also uses the most dedicated community members to contribute ideas. The company used Facebook, Twitter, and YouTube to interact with consumers and engage them.
- In 2010, Target used Twitter to promote their fall fashion show in New York with videos and ads. The show was streamed live on Facebook.
- Levi's advertises on Facebook based on 'what people think their friends would like.'
- Wendy's uses Facebook and Twitter to award $50 gift cards to people who have the funniest and quirkiest responses to Wendy's published challenges online.

Overall, the vast majority of U.S. companies have a presence on Facebook (see **emarketer.com** for periodic reports). For more applications see Chapters 7 and 8, Turban et al. (2015), and Simply Zesty (2011).

Virtual Worlds and Second Life

A special class of social networking is the *virtual world.* A **virtual world**, also known as a *metaverse,* has several definitions. Our working definition is that it is a 3-D computer-based simulated environment built and owned by its residents. In addition to creating buildings, people can create and share cars, clothes, and many other items. Community members inhabit virtual spaces and interact and socialize via *avatars.* The essentials of virtual worlds and the prime example, Second Life (**secondlife.com**), are presented in Chapters 2 and 7.

Until 2007, virtual worlds were most often limited to 3-D games, including massive multiplayer online games. More recently, they have become a new way for people to socialize, and even do business (see Chapter 7). For example, **there.com** focuses more on social networking activities, such as chatting, creating avatars, interacting, playing, and meeting people.

How Students Make Money in a Virtual World

If you cannot get a summer (or other) job, try a job in a virtual world. Examples of such jobs and the names of the young entrepreneurs who use their computer skills to develop these jobs are provided by Alter (2008).

The Major Tools of Web 2.0

Web 2.0 uses dozens of tools such as wikis, RSS feeds, blogs, and microblogs (e.g., Twitter). In microblogging you can transmit short messages (up to 140 characters) to a list of recipients via the Internet and wireless or wireline devices. As of 2009, Twitter became a major Web 2.0 tool with diversified business applications. Web 2.0 tools are described in Edwards (2013).

SECTION 1.4 REVIEW QUESTIONS

1. Define social computing and list its characteristics.
2. Define Web 2.0 and list its attributes.
3. Define social networks.
4. Describe the capabilities of social network services (SNSs).
5. Describe Facebook. Why is it so popular?
6. What is an enterprise social network?
7. Define social commerce.
8. Define virtual worlds and list their major characteristics.

1.5 THE DIGITAL AND SOCIAL WORLDS: ECONOMY, ENTERPRISES, AND SOCIETY

E-Commerce, including E-Commerce 2.0 is facilitated by developments in the digital and social economy as well as enterprises.

The digital revolution is upon us. We see it every day at home and work, in businesses, schools, hospitals, on the roads, in entertainment,

and even wars (see Daugherty 2014 for details). Next, we describe three elements of the digital world: economy, enterprises, and society.

The Digital Economy

The **digital economy**, also known as the *Internet economy*, is an economy based on online transactions, mostly e-commerce. It includes digital wireline or wireless communication networks (e.g., the Internet, intranets, extranets, and VANs), computers, software, and other related information technologies. This digital economy displays the following characteristics:

- Many digitizable products – books, databases, magazines, information, electronic games, and software – are delivered over a digital infrastructure anytime, anywhere in the world, interconnected by a global grid (see Bisson et al. 2010). We are moving from analog to digital, even the media is going digital (TV as of February 2009).
- Information is transformed into a commodity.
- Financial transactions are now digitized and chips are embedded in many products (e.g., cameras, cars). Knowledge is codified.
- Work and business processes are organized in new and innovative ways.
- Disruptive innovation is occurring in many industries (see Manyika et al. 2014 and Daugherty 2014).

Table 1.3 summarizes the major characteristics of the digital economy.

The digital revolution also enables many innovations, and new ones appear almost daily, improving business processes and productivity. The digital revolution provides the necessary technologies for EC and creates major changes in the business environment, as described in Section 1.6.

Table 1.3 Major characteristics of the digital economy

Area	Description
Globalization	Global communication and collaboration; global electronic marketplaces and competition
Digitization	Music, books, pictures, software, videos, and more are digitized for fast and inexpensive storage and distribution
Speed	A move to real-time transactions, thanks to digitized documents, products, and services. Many business processes are expedited by 90% or more
Information overload and intelligent search	Although the amount of information generated is accelerating, intelligent search tools can help users find what people need
Markets	Markets are moving online. Physical marketplaces are being replaced or supplemented by electronic markets; new markets are being created, increasing competition
Business models and processes	New and improved business models and processes provide opportunities to new companies and industries
Innovation	Digital and Internet-based innovations continue at a rapid pace. More patents are being granted than ever before
Obsolescence	The fast pace of innovation creates a high rate of obsolescence
Opportunities	Opportunities abound in almost all aspects of life and operations
Fraud	Criminals employ a slew of innovative schemes on the Internet. Cybercons are everywhere
Wars	Conventional wars are changing to cyberwars or are complemented by them
Organizations	Organizations are moving to digital enterprises and social businesses

Sharing Economy

Sharing economy refers to an economic system constructed around the concept of sharing goods and services among the participating people. Also known as 'collaborative consumption' and 'collaborative economy' such systems appear in different forms and frequently use information technologies in their operations. A well known example is car sharing. The essentials of this concept are described by Buczynski (2013).

The major benefits for participants are cost reduction for buyers and ability to sell more for sellers. Societal benefits include reduction of carbon footprint (e.g., in ride sharing), increase recycling, and increase social interactions. For a comprehensive coverage see **en.wikipedia.org/wiki/sharing-economy.**

Sharing Economy and E-Commerce

Several EC models and companies are based on the concept of the sharing economy. Examples include Uber (for ride sharing), Yerdle (a sharing economy free marketplace), Kickstarter (for crowdfunding), Krrb (a P2P marketplace), and Knok and Love Home Swap for home swapping. Vacation rental is a large area where home and condo owners provide short term rentals possibly for an exchange (e.g., see Airbnb, HomeAway, and VRBO).

The Social Impact

The digital revolution is accompanied by social impacts that resulted in part by improved communication and collaboration tools offered by social media. For example, smartphones reduce the digital divide. Also people change their behavior. Both individuals and organizations are impacted. In addition to productivity improvement in the economy, one can see some major social changes, such as the mass participation in social networks. According to Chui et al. (2012), social technologies unlock value and increase productivity in businesses.

The Apps Society

New apps change the way that people communicate, work and play. People are looking for apps for thousands of new uses.

Example: Swedish Farmers Go Online

According to Willgren (2013) small farmers in Sweden created a social network called 'Min Farm (My Farm).' The network allows communication between the farmers and their customers. It also allows people that grow their own food to tell their stories and ask for advice. Customer can visit farms and do some shopping there; they can also order online. The network promotes self-sustainability.

The Digital Enterprise

One of the major impacts of EC is the creation of the digital enterprise concept that accompanies the social enterprise.

The term *digital enterprise* has several definitions. It usually refers to an enterprise, such as Amazon.com, Google, Facebook, or Ticketmaster, which uses computers and information systems to automate most of its business processes. The **digital enterprise** is a new business model that uses IT to gain competitive advantage by increasing employee productivity, improving efficiency and effectiveness of business processes, and better interactivity between vendors and customers. The major characteristics of a digital enterprise are listed in Table 1.4, where they are compared with those of a traditional enterprise.

Note that the term *enterprise* refers to any kind of organization, public or private, small or large. An enterprise can be a manufacturing plant, a hospital, a university, a TV network, or even an entire city. They are all moving toward being digitized.

A digital enterprise uses networks of computers in EC to facilitate the following:

- All business partners are reached via the Internet, or a group of secured intranets, called an extranet, or value-added private communication lines.
- All internal communication is done via an intranet, which is the counterpart of the Internet inside the company.

Most companies' data and EC transactions are done via the Internet and extranets. Many companies employ a **corporate portal**, which is a gateway for customers, employees, and partners to reach corporate information and to communicate with the company.

A key concern of many companies today is how to change themselves into digital (or at least partially digital) enterprises so that they

Table 1.4 The digital versus brick-and-mortar company

Brick-and-mortar organizations	Digital organizations (enterprises)
Selling in physical stores	Selling online
Selling tangible goods	Selling digital goods online as well
Internal inventory/ production planning	Online collaborative inventory forecasting
Paper catalogs	Smart electronic catalogs
Physical marketplace	Electronic marketplace
Use of telephone, fax, VANs, and traditional EDI	Use of computers, smartphones, the Internet, and extranets and EDI
Physical auctions, infrequently	Online auctions, everywhere, any time
Broker-based services, transactions	Electronic infomediaries, value-added services
Paper-based billing and payments	Electronic billing and payments
Paper-based tendering	Electronic tendering (reverse auctions)
Push production, starting with demand forecasting	Pull production, starting with an order (build-to-order)
Mass production (standard products)	Mass customization, build-to-order
Physical-based commission marketing	Affiliated, virtual marketing
Word-of-mouth, slow and limited advertisement	Explosive viral marketing, in particular in social networks
Linear supply chains	Hub-based supply chains
Large amount of capital needed for mass production	Less capital needed for build-to-order; payments can be collected before production starts
Large fixed cost required for plant operation	Small fixed cost required for smaller and less complex plant operation
Customers' value proposition is frequently a mismatch (cost > value)	Perfect match of customers' value proposition (cost <= value)

can take part in the digital economy. For example, Harrington (2006) describes why and how, as a CEO, he transformed the Thomson Corp. from a traditional $8 billion publishing business into an electronic information services provider and a publisher. In 5 years, revenue increased over 20% and profit increased by more than 65%.

The concept of the digital enterprise is related to the smart and intelligent enterprise systems.

Smart and Intelligent Enterprise Systems

IBM is a leading force in developing smart (or intelligent) computing systems (other companies include SAP, Intel, Oracle, Google, and Microsoft) . IBM provides software and knowledge to digital enterprises (including cities). See **ibm.com/smartercommerce**.

Smart Computing and Integrated Expertise

A major part of IBM's project is based on cloud computing (see Online Tutorial T2). The project created software for efficient, easy to use and flexible computing systems that include a built-in pattern of expertise. The integrated systems are known as 'IBM PureFlex' and 'IBM PureApplication.' For details see **ibm.com/puresystems**. These system per IBM, are changing the economics of computing by:

- Helping reduce time-to-market
- Conserving resources and reducing cost
- Consolidating diverse computer system components and applications
- Improving security and reducing human error

All of these contribute to IBM's Smarter Commerce efforts.

The Social Business (Enterprise)

The concept of social business has several definitions and characteristics. We present only a few of them.

The Social Business Forum

The concept of social business was developed decades ago and was not related to computers. Today, the Social Business Forum defines **social business** as "an organization that has put in place the strategies, technologies and processes to systematically engage all the individuals of its ecosystem (employees, customers, partners, suppliers) to maximize the co-created value." See **socialbusinessforum.com/social-business-manifesto**. The Forum also discusses the implication of this definition and its relevance inside, across and outside organizations. Note that the efficient creation of value using technology

is emphasized. The Forum conducts annual conferences.

IBM's Approach

IBM has been recognized by the research company IDC as the market share leader in social software platform provider. IBM and IDC include in their joint definition the following characteristics: use of emerging technologies such as social software, social-oriented organizational culture, and improvements of business processes. The IBM effort also concentrates on improved collaboration. The basic idea is that social media networks and social customers require organizations to drastically change the way they work to become a social businesses that can exploit the opportunities created by the digital and social revolutions. IBM is helping organizations become social businesses. (For an example, see **ibm.com/social-business/us/en** and **ibm.com/smarterplanet/global/files/us__en_us__social-business__epw14008usen.pdf)**. For a white paper titled "Social Business: The Advent of a New Age" (2011). IBM has an extensive 'social business video library,' two interesting videos are recommended for better understanding of the concept.

1. "How Do You Become a Social Business" – by Sandy Carter from IBM (3:50 minutes) at **youtube.com/watch?v=OZy0dNQbotg**.
2. "Social Business @ IBM" – An Interview with Luis Suarez (8:50 minutes) at **youtube.com/watch?v=enudW2gHek0**.

(Also, see slide shows embedded in Taft (2012a) and Taft (2012b) used in Team Assignments #4 at the end of this chapter. Both are useful for understanding of the concept).

Social Business by Design

The Dachis Group, a consulting a company on social business sponsored a book on transformative social business strategies (by Hinchcliffe et al. 2012). The book is based on research done by Dachis Group and experience collected in major companies that implemented a social business strategy (e.g., SAP, IBM, Ford, Miller Coors and Procter & Gamble). The strategy. methodologies, and tactics suggested in the book are called 'Social Business by Design.'

The Social Enterprise

The concept of social business is frequently equated to and sometimes confused with the term *social enterprise*. Many use the two terms interchangeably. The main goal of a **social enterprise** is to focus on social issues. These enterprises generate revenue. The profits do not go to owners and shareholders, but are put back into the company and used toward building positive social change. The Social Enterprise Alliance provides details at **se-alliance.org/why**. It seems that the above definition emphasizes the social goals.

Example

The Children's Medical Center of Dallas is going social. According to Cerrato (2012) the hospital created a patient and family social network, a patient portal, and provides for social collaboration. For more on the social enterprise see Chui et al. (2013).

The Digital Revolution and Society

The final, and perhaps most important, element of the *digital world* is people and the way they work and live. Clearly, the digital revolution has changed almost any activity one can think of – work, play, shopping, entertainment, travel, medical care, education, and much more. Just think about your digital phone, camera, TV, car, home, and almost anything else. It is only natural that people are utilizing technology and EC at an increasing rate. Let's take a look at some examples:

- Google has developed cars that drive themselves automatically in traffic (autonomous vehicles). The cars are being tested in several states, including California, and were approved in the state of Nevada as of summer 2012. In May 2012 these cars were tested in California without people in them. For a comprehensive discussion see Neil (2012). For an overview and potential benefits, including safety, see Cook (2012). By 2014 self-driving cars are

running in several cities. For details see Thomas (2014). Also see Chapter 6.

- Billionaire Jack Ma, the founder of Alibaba.com (Chapter 4) is determined to transform China to a better country with an improved environment. Alibaba's sales now exceed those of eBay and Amazon combined. For details see Anderlini (2013).
- As of 2008, high school girls are able to solicit feedback from their friends regarding dozens of different prom dresses that have been displayed by Sears on Facebook.
- Dryers and washers in some college dorms are controlled via the Internet. Students can sign in at **esuds.net** or use their smartphone to check the availability of laundry machines. Furthermore, they can receive e-mail or SMS alerts when their wash and dry cycles are complete. Some systems can even inject premeasured amounts of detergent and fabric softener at the right cycle time.
- Hailing a taxi in New York and other major cities is much easier today. As of August 2012 you can e-hail taxi if you have a smartphone with GPS. Using an application by ZABKAB (**zabkab.com**) all you have to do is to push one button. Your exact location (on a map) will appear automatically on the portable device screen of all subscribing taxi drivers; the cost is $14.95/month for the driver, free for the user. (Note; This application has been temporarily halted due to some internal politics in New York City).
- Over 500 million active users download songs, games and videos at Apple's iTune store. (A selection of over 30 million). The store also serves 350 million mobile devices. Total revenue is estimated to reach $9 billion in 2014. The store is considered the most popular music store in the world. Since its conception in 2003 it sold over 28 billion songs by fall 2013. At the same time the iPhone store has had over 1 million apps.
- Ford Company is using 'My Ford Touch' system to calculate the fastest, shortest, and most fuel-efficient way to get to a destination. The systems charts a route that avoids congestion (based on historical and real-time traffic data). Results are shown on a dashboard. Initial deployment was in the 2012 model of the Ford Focus.
- Super Bowl XLVI (2012) has served its fans via a social media command center staffed by 50 employees who monitored over 300 keywords during the game. For details see Chaney (2012).
- As of 2014, guests in several Starwood Hotels & Resorts can enter their rooms by using a smartphone as a room key.
- An international research project is developing a computerized system that enables monitoring patients at home in real time, conducting a diagnosis, and providing medical advice. The objective is to reduce traffic to medical facilities while increasing the quality of care. The project is managed in Israel with collaboration of experts from several European countries. For details see **haifa.ac.il**: Search for 'global medical systems.'
- Union Pacific, the largest U.S. railroad company is using large number of sensors on their trains and other equipment to collect data that is transmitted via wireless and wireline networks to a data center. There an analysis is performed to determine optimal preventive maintenance by using predictive analytics. Over 10 billion data items were collected in 2011 increasing annual revenue by $35–40 million. For details see Murphy (2012).
- Water loss involving many influencing variables in the Valley of the Moon

Water District in California has been considerably reduced by using smart analytical computing from IBM.
- Supermarket shoppers in Finland are using camera-equipped smartphones that can scan the bar code of an item to find its ingredients, nutrient value, and exercise time needed to burn the consumed calories.
- **Doggyspace.com** allows dog lovers from around the globe to congregate online. You can build a page and a profile for your dog and post a video or photos to show off the animal. You can ask questions and receive dog food recommendations, including pet medical advice.
- Bicycle computers (by Bridgestone Cycle Co.) can automatically keep track of your travel distance, speed, time, and calorie consumption. For cycling communities see **bikewire.net** and **cyclingforum.com** .
- Champions of the World Series of Poker used to be people in their 50s and 60s who spent years playing the game to gain the experience needed to win. But in 2009, Joe Cada from the U.S. won the main event at the World Series of Poker, at the age of 21. To gain experience quickly, Cada plays extensively online. Ryan Riess won in 2013 at the age of 23.

The above list can be extended to hundreds or even thousands of items. For some extreme applications see Pepitone (2012).

Disruptive Impacts

Digital technologies in general and EC and related technologies such as m-commerce and social commerce, may have a disruptive impact on economies, industries, business models, and people (see the 'Disruptive Technologies' video of 2013 at **mckinsey.com/insights/high_tech_telecoms_internet/disruptive_technologies**, and Daugherty (2014). For a 2014 video interview of MIT's Andrew McAfee and McKinsey's James Manyika titled "Why Every Leader Should Care about Digitization and Disruptive Innovation," see **mckinsey.com/insights/business_technology/why_every_leader_should_care_about_digitization_and_disruptive_innovation**.

The Social Customer

An important component in the digital society is the *social customer*. **Social customers** (sometimes called *digital customers*) are usually members of social networks who share opinions about products, services, and vendors, do online social shopping, and understand their rights and how to use the wisdom and power of social communities to their benefit. The number of social customers is increasing exponentially due to wireless shopping and new online shopping models and opportunities (Chapter 7). The highlights of the social customers are shown in Figure 1.5.

As the figure illustrates, social customers expect better service, are willing to provide feedback, product reviews, and connect with like-minded peers. This new behavior pattern requires a new strategy for both marketing communication, and customer service. The social customer is participatory, and has active involvement in the shopping process both as a buyer and as an influencer. Individuals are influenced by friends, friends of friends, and friends of friends of friends. Merchants must understand how these consumers differ from conventional customers, and therefore use appropriate e-commerce marketing strategy as well as superb customer service (e.g., see Turban et al. 2015). For an extensive discussion of today's social customer, see Shih (2011). Procedures, guidelines, and software are publically available for social CRM (e.g., see Smith et al. 2011). For an overview of the social customer, you can download the free e-book from SAP titled "The Social Contact" available at **socialmediatoday.com/547133/social-contract-ebook**.

Taft (2012a) explains the reasons IBM's Smarter Commerce initiative is focusing on the digital customer (see the slide show embedded in

Being connected, customers realized that they could ask more from companies and share opinions about products and services

Web 2.0 stimulated fundamental changes in consumer behavior

Interactions between customer and brands starting earlier and never ending

New behavior patterns demand a new strategy, better segmentation, new channels and targeted messages and review of current customer facing business processes

Figure 1.5 The social customer (Source: Courtesy of F. Cipriani, "Social CRM: Concept, Benefits, and Approach to Adopt," November 2008. slideshare.net/fhcipriani/social-crm-presentation-761225 (Accessed June 2014). Used with permission

the article). IBM is developing new software and services that deliver intelligence-guided customer experience (e.g., personalization and targeted advertising based on cloud computing analytics).

SECTION 1.5 REVIEW QUESTIONS

1. Define the digital revolution and list its components.
2. List the characteristics of the digital economy.
3. What is the social economy?
4. Define a digital enterprise and relate it to social business.
5. Describe the social enterprise.
6. Compare traditional and digital enterprises.
7. Describe the digital society.
8. Describe the social customer.
9. Visit **doggyspace.com** and **dogtoys.com**. Compare the two sites and relate their contents to the digital society.

1.6 THE CHANGING BUSINESS ENVIRONMENT, ORGANIZATIONAL RESPONSES, AND EC AND IT SUPPORT

EC is driven by many technological, economic, and social factors. These are frequently related to global competition and rapid changes in the business environment. For predictions about the technological changes see *Enterprise Innovation* Editors (2013).

The Changing Business Environment

Economic, legal, societal, and technological factors and the trend for globalization have created a very competitive business environment. The environmental factors can change quickly, vigorously, and sometimes in an unpredictable manner. For example, the financial crisis of 2008–2012 has resulted in many companies going out of business or being acquired by other companies. These business environment changes impact the manner in which companies operate, and as a result, many firms have restructured their business processes as well as their EC initiatives.

Let's see how all of these impact organizational performance.

Performance, Business Pressures, and Organizational Responses and EC Support

Most people, sports teams, and organizations are trying to improve their *performance*. For some, it is a challenge; for others, it is a requirement for survival. Yet for others it is the key to improved quality of life, profitability, or reputation.

Most organizations measure their performance periodically, comparing it to some metrics and to the organization's mission, objectives, and plans. Unfortunately, in business, performance often depends not only on what you do but also on what others are doing, as well as on what is happening in the business and physical environments.

The Business Environment and Performance Impact Model

The model shown in Figure 1.6 illustrates how the business environment (left) creates pressures, problems, and opportunities that drive what organizations are doing in their business processes (the "Our Company" circle). Other drivers are the organization's mission, goals, strategy, and plans. Business processes include competencies, activities, and responses to the environmental pressures that we call *critical response activities* or *solutions*. The business processes and activities result in measurable performance, which provides solutions to problems/opportunities, as

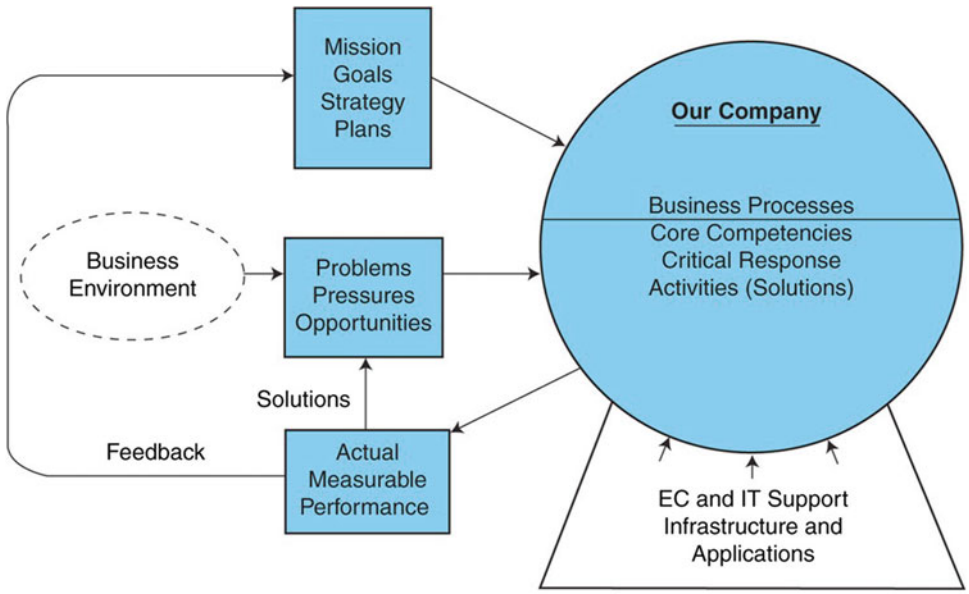

Figure 1.6 The business environment and performance model

Table 1.5 Major business pressures

Market and economic pressures	Societal pressures	Technological pressures
Intense global competition	The nature (and composition) of the workforce is changing	Increasing innovations and new technologies
Global economy and markets	Government deregulation, leading to more competition	Rapid technological obsolescence
Regional trade agreements (e.g., NAFTA)	Compliance with regulations is needed (e.g., Sarbanes-Oxley Act)	Increases in information overload
Extremely low labor costs in some countries	Shrinking government subsidies	Rapid decline in technology cost versus labor cost (technology becomes more and more attractive)
Regular and important changes in markets	Politics drives government regulations	
Increased power of consumers	Increased importance of ethical and legal issues	
Political and government	Increased social responsibility of organizations	
Interventions in markets		
	Rapid political changes	
	Terrorism is on the rise	

well as feedback to the attainment of the mission, strategy, goals, and plans.

Notice that in Figure 1.6 EC and IT provide support to organizational activities and to the resultant performance, countering the business pressures. Now, let us examine the two major components of the model: business pressures and organizational responses.

Business Pressures

In this text, business pressures are divided into the following categories: market (economic), societal, and technological. The main types of business pressures in each category are listed in Table 1.5. (Note that some of the business environment conditions create opportunities.)

Organizational Response Strategies

How can organizations operate in such an environment? How can they deal with the threats and the opportunities? To begin with, many traditional strategies are still useful in today's environment. However, because some traditional response activities may *not* work in today's turbulent and competitive business environment, some of the old solutions may not work and need to be modified or supplemented. Alternatively, new responses can be devised. Critical response activities can take place in some or all organizational processes, from payroll processing to a merger. A response activity can be a reaction to a specific pressure already in existence, or it can be a scheme that will protect an organization against future pressures. It can also be an activity that exploits an opportunity created by changing conditions as shown in Case 1.1, Net-a-Porter (p. xxx).

Representative response activities are provided in Table 1.6.

The Support of EC

Many response activities can be greatly facilitated by EC, and this fuels the growth of the field. In some cases, EC is the *only* solution to certain business pressures. The reasons for this are related to the capabilities of EC.

The Major Capabilities of E-Commerce

EC initiatives play an increasing role in supporting innovations and strategies that help companies compete and flourish, especially companies that want to be proactive and introduce changes rather than be reactive and respond to them. What makes EC suitable for such a role is a *set of*

Table 1.6 Innovative organizational responses

Response strategy	Descriptions
Strategic systems	Strategic advantage in industry improved
Agile systems	Ability to adapt to changes and flexibility increased
Continuous improvements and business process management	Business processes improved through Use of enterprise systems
Customer relationship management	Use of Internet and EC models to introduce programs for improvement of customer relationships
Business alliances and partner relationship management (PRM)	Win-win situations – even with competitors created through joint ventures, partnerships, e-collaboration, and virtual corporations
Electronic markets	Increased efficiency and effectiveness through the use of both private and public electronic markets
Cycle time reduction	Speed of operation increased and time to market reduced
Empowering employees, especially on the front line (interacting with customers, partners)	Employees make quick decisions on their own with computerized decision aids provided by company
Mass customization in a build-to-order system	Quickly produce customized products (services) at reasonable cost to many customers (mass) as Dell does
Intrabusiness use of automation	Improvement of many intrabusiness activities (e.g., sales force automation, inventory management using e-commerce and m-commerce)
Knowledge management	Increased productivity, agility, and competitiveness through appropriate creation, storage, and dissemination of knowledge using electronic systems
Customer selection, loyalty, and service	Retain customer loyalty by identifying customers with the most profit potential and increasing chances that they will want the product or service offered
Human capital	Choose the top employees for particular tasks or jobs, at particular payment levels
Quality of products and services	Minimize quality problems through early detection.
Financial performance	Recognize the drivers of financial performance and the effects of nonfinancial factors involved
Research and development	Quality, effectiveness, and, where applicable, safety of products and services improved
Social networking	Innovative marketing, advertising, collaboration, and innovation using the power of the crowd

capabilities and *technological developments*; some of which were listed in Figure 1.4 (p. xx).

The essential capabilities that drive EC are the ability to:

- Provide efficient and effective business transactions.
- Provide global reach for selling, buying, or finding business partners.
- Conduct business anytime, from anywhere, in a convenient way. For example, there were more than 300 million wireless subscribers in the U.S. and over 600 million in China in 2013 (see Peterson 2014).
- Disseminate information rapidly, frequently in real time.
- Enable price comparisons.
- Customize products and personalize services.
- Use rich media in advertisement, entertainment, and social networking.
- Receive expert and other user advice quickly.
- Collaborate in different ways, both internally and externally.
- Share information and knowledge.
- Increase productivity and performance, reduce costs, and compress time within the supply chain (e.g., by having smarter applications).
- Easily and quickly find information about vendors, products, and competitors.

Because EC technology is improving over time and decreasing in cost, its comparative advantage is continuously increasing, further contributing to the growth of EC.

SECTION 1.6 REVIEW QUESTIONS

1. List the components of the business environment and the performance model and explain the model.
2. List the major factors in today's business environment.
3. List some of the major response activities taken by organizations.
4. List and briefly discuss five capabilities of EC.

1.7 ELECTRONIC COMMERCE BUSINESS MODELS

One of the major characteristics of EC is that it facilitates the creation of new business models. A **business model** describes the manner in which business is done to generate revenue and create value. This is accomplished by attaining organizational objectives. A key area is attracting enough customers to buy the organization's products or services. Note: The January–February 2011 issue of *Harvard Business Review* is dedicated to business model innovations (5 articles), including several topics related to e-commerce. Several different EC business models are possible, depending on the company, the industry, and so on. Business models can be found in existing businesses as well as in proposed ones.

The Structure and Properties of Business Models

A comprehensive business model (for a proposal company) may include some or all of the following components illustrated in Figure 1.7.

- A description of the *customers* to be served and their *value proposition*. Also, how these customers can be reached and supported.
- A description of all *products* and *services* the business plans to deliver. Also, what the differentiating aspects of the products are.
- The company's growth strategies.
- A description of the required *business process* and the distribution infrastructure (including human resources).
- A list of the *resources* required, their cost and availability (including human resources).
- A description of the organization's *supply chains*, including *suppliers* and other *business partners*.
- The value chain structure.
- The relevant markets with a list of the major competitors and their market share. Also, market strategies and strengths/weaknesses of the company.
- The competitive advantage offered by the business model including pricing and selling strategies.
- The anticipated organizational changes and any resistance to change.
- A description of the revenues expected (*revenue model*), sources of funding, and the *financial viability*.

Models also include a *value proposition,* which is a description of the benefits of using the specific model (tangible and intangible), both to the customers and to the organization. A detailed discussion of and examples of business models and their relationship to business plans is presented at **en.wikipedia.org/wiki/Business_model**.

This chapter presents two of the models' elements: *revenue models* and *value propositions*.

Revenue Models

A revenue model specifies how the organization, or the EC project, will generate revenue. For example, the revenue model for Net-a-Porter shows revenue from online sales of luxury dresses. The major revenue models are:

A company uses its *revenue model* to describe how it will generate revenue and its *business model* to describe the *process* it will use to do so.

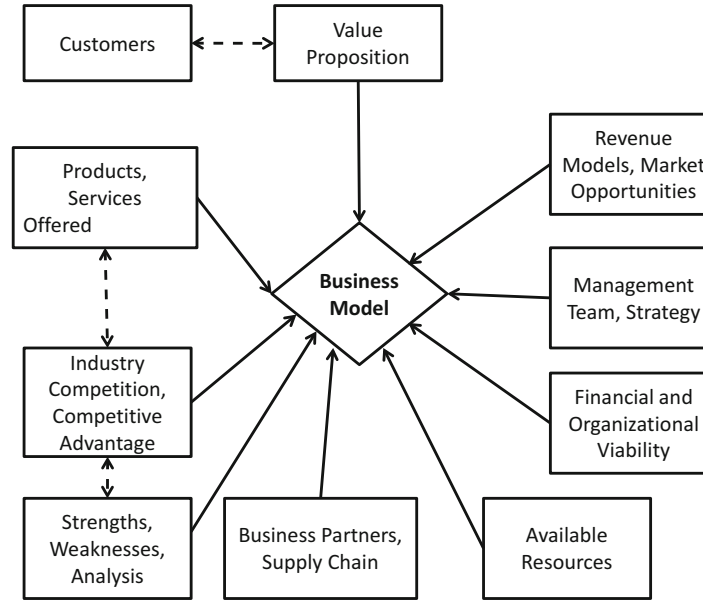

Figure 1.7 The major components of a business model

Innovative Revenue Models for Individuals

The Internet allows for innovative revenue models, some of which can be utilized even by individuals, as demonstrated by the following example.

Sales. Companies generate revenue from selling products or services on their websites. An example is when Net-a-Porter, Starbucks, Amazon.com, or Godiva sells a product online.

Transaction Fees. Commissions are based on the volume of transactions made. For example, when a home owner sells a house, he or she typically pays a transaction fee to the broker. The higher the value of the sale, the higher the total transaction fee. Alternatively, transaction fees can be levied *per transaction*. With online stock trades, for example, there is usually a fixed fee per trade, regardless of the volume.

Subscription Fees. Customers pay a fixed amount, usually monthly, to get some type of service. An example would be the fee you pay to an Internet access provider (fixed monthly payments).

Advertising Fees. Companies charge others for allowing them to place a banner on their sites (see Chapter 4).

Affiliate Fees. Companies receive commissions for referring customers to certain websites. A good program is available at Amazon.com.

Licensing Fees. Another revenue source is licensing fees (e.g., see **datadirect-technologies.com**). Licensing fees can be assessed as an annual fee or a per usage fee. Microsoft receives fees from each workstation that uses Windows NT, for example.

Other Revenue Sources. Some companies allow people to play games for a fee or to watch a sports competition in real time for a fee (e.g., see **espn.go.com**).

- ***Example : Buy Low–Sell High.*** This strategy has been known for generations, but now you have a better chance. How about buying stuff cheap on Craigslist (or other online classified ad sites) and resell it for a 50–200% profit in an auction on eBay? Try it, you might make money. Some people make it even bigger. The person who bought the domain name *pizza.com* for $20 in 1994 sold it for $2.6 million in April 2008 (one of the many he purchased). The revenue model can be part of the value proposition or it may supplement it.

Value Proposition

Business models also include a value-proposition statement. A **value proposition** refers to the benefits, including the intangible ones that a company hopes to derive from using its business model. In B2C EC, for example, the *customer value proposition* defines how a company's product or service fulfills the needs of customers. In other words, it describes the total benefits to the customer. The *value proposition* is an important part of the marketing plan of any product or service. For 50 value propositions in B2C e-commerce see CPC Andrew (2012).

Functions of a Business Model

Business models have the following major functions or objectives:

- Describe the supply and value chains.
- Formulate the venture's competitive strategy and its long-range plans.
- Present the customer value proposition.
- Identify who will use the technology for what purpose; specify the revenue-generation process; where the company will operate.
- Estimate the cost structure and amount and profit potential.

Typical EC Business Models

There are many types of EC business models. Examples and details of EC business models can be found throughout this text, in Rappa (2010). The following are five common models. Additional models are listed in Online File W1.4.

1. **Online direct marketing.** The most obvious EC model is that of selling products or services online. Sales may be from a *manufacturer* to a customer, eliminating intermediaries or physical stores (e.g., Dell), or from *retailers* to consumers, making distribution more efficient (e.g., Net-a-Porter, Walmart online). This model is especially efficient for digitizable products and services (those that can be delivered electronically). This model has several variations (see Chapters 3 and 4) and uses different mechanisms (e.g., auctions). It is practiced in B2C (where it is called *e-tailing*) and in some B2B types of EC.
2. **Electronic tendering systems.** Large organizational buyers usually make large-volume or large-value purchases through a **tendering (bidding) system,** also known as a *reverse auction*. Such tendering can be done online, saving time and money. Pioneered by General Electric Corp., e-tendering systems are gaining popularity. Indeed, many government agencies mandate that most of their procurement must be done through e-tendering. (Details are provided in Chapter 4.)
3. **Electronic marketplaces and exchanges.** Electronic marketplaces existed in isolated applications for decades (e.g., stock and commodities exchanges). But as of 1996, hundreds of e-marketplaces (old and new) have introduced new methods and efficiencies to the trading process. If they are well organized and managed, e-marketplaces can provide significant benefits to both buyers and sellers. Of special interest are vertical marketplaces that concentrate on one industry. For details see Chapter 4.

4. **Viral marketing.** According to the viral marketing model (see Chapter 7, people use e-mail and social networks to spread word-of-mouth advertising. It is basically Web-based *word-of-mouth* advertising, and is popular in social networks.
5. **Group purchasing.** Group purchasing is a well-known offline method, both in B2C and B2B. It is based on the concept of quantity discounts ("cheaper by the dozen"). The Internet model allows individuals to get together, so they can gain the large-quantity advantage. This model was not popular in B2C until 2010 when Groupon introduced a modified model in which people are grouped around special deals, as illustrated in Chapter 7.

Note that a company may use several EC models as demonstrated in Starbucks opening case, the NFL closing case, and Dell case (Online File W1.1).

Classification of Business Models in E-Commerce

Rappa (2010) classified the EC business models into eight categories:

1. Brokerage: Market makers that charges fee for their services.
2. Advertising: Websites that provide content and charge advertisers for related ads.
3. Infomediary: Provide information and/or infrastructure that help buyers and/or sellers and charge for their services.
4. Merchant: Retailers (such as Walmart or Amazon): These buy the products and sell them at profit.
5. Direct model: Sell without intermediaries.
6. Affiliate: Paying website owners to place banners. Share fees received from advertisers.
7. Community: A social media-based model that utilizes Web 2.0 tools, social networks, and the characteristics presented in Chapter 7.

Rappa (2010) provides examples of each plus their revenue models. Also he presents the major varieties in each category.

SECTION 1.7 REVIEW QUESTIONS

1. What is a business model? Describe its functions and properties.
2. Describe a revenue model and a value proposition. How are they related?
3. Describe the following business models: direct marketing, tendering system, electronic exchanges, viral marketing, and social networking/commerce.
4. Identify some business models related to buying and those related to selling.
5. Describe how viral marketing works.

1.8 THE LIMITATIONS, IMPACTS, AND THE FUTURE OF E-COMMERCE

As indicated in Section 1.2 there are some limitations and failures in EC.

The Limitations and Barriers of EC

Barriers to EC are either non-technological or technological. Representative major barriers are listed in Table 1.7.

Van Toorn et al. (2006) classified the barriers into sectorial barriers (e.g., government, private sector, international organizations), internal barriers (e.g., security, lack of technical knowledge, and lack of time and resources), external barriers (e.g., lack of government support), cultural differences, organizational differences, incompatible B2B interfaces, international trade barriers, and lack of standards. These limitations are diminishing with time but still need to be addressed when implementing EC. One important area that may limit some EC project is ethics.

1.1.1.1 Ethical Issues

Ethical issues can create pressures or constraints on EC business operations. Yet some ethical sites increase trust and help EC vendors. **Ethics** relates to standards of right and wrong. Ethics is a difficult concept, because what is considered ethical by one

Table 1.7 Limitations of electronic commerce

Technological limitations	Non-technological limitations
Need for universal standards for quality, security, and reliability	Security and privacy concerns deter customers from buying
The telecommunications bandwidth is insufficient, especially for m-commerce, videos, and graphics	Lack of trust in sellers, in computers, and paperless faceless transactions hinders buying
Software development tools are still evolving	Resistance to change
It is difficult to integrate Internet and EC software with some existing (especially legacy) applications and databases	Many legal and public policy issues are not resolved or are not clear
Special Web servers are needed in addition to the network servers, which add to the cost of EC	National and international government regulations sometimes get in the way
Internet accessibility is still expensive and/or inconvenient	It is difficult to measure some of the costs and benefits of EC
Large-scale B2C requires special automated warehouses for order fulfillment	Not enough customers. Lack of collaboration along the supply chain

person may seem unethical to another. Likewise, what is considered ethical in one country may be unethical in another. For further discussions of EC ethical issues see Gaskin and Evans (2010).

Implementing EC use may raise ethical issues ranging from monitoring employee e-mail to invasion of privacy of millions of customers whose data are stored in private and public databases. In implementing EC, it is necessary to pay attention to these issues and recognize that some of them may limit, or even prohibit, the use of EC. An example of this can be seen in the attempted implementation of RFID tags (Online Tutorial T2) in retail stores due to the potential invasion of buyers' privacy.

1.1.1.2 Overcoming the Barriers

Despite these barriers, EC is expanding rapidly. As experience accumulates and technology improves, the cost-benefit ratio of EC will increase, resulting in even greater rates of EC adoption. For suggestions on how to lesson some of the barriers via appropriate strategy see Chapters 13 and 14 and **powerhomebiz.com/vol103/implement.htm**.

Why Study E-Commerce?

The major reason to study e-commerce is that it is a rapidly growing field. The percentage of EC of total commerce is increasing rapidly and some predict that most future commerce will be online. Thus, any business person or a business student should learn about this field.

This is why the academic area of e-commerce that started around 1995 with only a few courses and textbooks is growing rapidly. Today, many universities offer EC courses and complete programs in e-commerce or e-business (e.g., majors in e-commerce, minors in e-commerce and certificate programs; see University of Virginia, University of Maine, University of Arkansas). Recently, e-commerce topics have been integrated into all functional fields (e.g., Internet marketing, electronic financial markets). The reason for this proliferation is that e-commerce is penetrating more and more into business areas, services, and governments. Finally, it is fascinating field with its innovative business models.

However, there are also some very tangible benefits to increased knowledge of EC. First, your chances of getting a good (or better) job are higher. The demand for both technical and managerial EC skills is growing rapidly, and so are the salaries (e.g., see salary comparison sites such as salary.com and **cbsalary.com**. Hundreds of well paying open positions are available in areas related to social media, social networking, and social commerce. Second, your chances for promotion could be higher if you understand EC and know how to seize its opportunities. Finally, it gives you a chance to become a billionaire, like the founders of Google, Facebook, YouTube, Amazon.com, and Yahoo!, or to make a great deal of money on eBay (see Joyner 2007). Even if you are not so lucky you can still make good money in Second Life (see Rymaszewski, et al. 2008) or

simply by selling on eBay, Yahoo!, Facebook, Craigslist, or your own website. And you can do it while you are a student. (See the case of Jetpens as described by Blakely 2007). Even some teenagers practice successful EC. An example is Diane Keng, an entrepreneur from Cupertino Monte Vista High School in California, who initiated three Web 2.0 successful start-up companies, making substantial money (see Fowler 2010).

There are many other opportunities for young people to make money from EC in addition to the examples in this book of Second Life and selling on eBay. Hunt (2010) suggests the following ways to earn extra cash online: (1) sell your craft; (2) make money from your talent; (3) be a nurse on call; (4) write, edit, or proofread; (5) design graphics and websites; (6) tutor kids or adults; (7) give advice; (8) provide customer service; (9) launch a blog; (10) give your opinion (for a fee); (11) search the Internet; and (12) do online tasks. Hunt also provides examples, URLs, and advice regarding scams. For 55 ways to make money online see Pantic (2013). Also see **makemoneyonlinestore.us/tag/practical**. Finally, for how to make money on the Internet using EC see Bates and Money Online (2014).

Web 2.0 also creates many opportunities for full-time jobs. For a list and discussion, see Tice (2010).

The Future of EC

Several economic, technological, and societal trends impact EC and shape its direction. For example, most experts agree that the shift from EC to mobile commerce is inevitable. Also, many believe in the future of social commerce, as a major component of e-commerce (e.g., see Turban et al. 2015). There will be a surge in the use of e-commerce in developing countries (mostly thanks to smartphones and tablets as well as e-payment systems). E-commerce will win its battle against conventional retailing (see the Amazon vs. Best Buy discussion in Chapter 3). Finally, e-commerce will increase its global reach.

EC will impact some industries more than others. This impact is changing with time. For example, major impacts in the past 5 years were felt in travel, retail, stock brokering, and banking. Next, according to Hiner (2011) are: movies: healthcare, book publishing, and electronic payments. For an interesting review see Solis (2012).

Today's predictions about the future size of EC, provided by respected analysts such as ComScore, eMarketer.com, and Forrester, vary. For a list of sites that provide such predictions and other statistics on EC, see Table 3.1 (p. xxx).

The number of Internet users worldwide was estimated to be around 2.6 billion in winter 2014, up from 2.4 billion in 2012 (see **internetworldstats.com**). With more people on the Internet EC will increase.

EMarketer forecasted that almost 73% of all Internet users in the US would shop online in 2011 (eMarketer 2011). The estimate for February 2014 is over 85. EC growth would come not only from B2C, but also from B2B and from newer applications such as e-government, e-learning, B2E, social commerce, and c-commerce. The total volume of EC has been growing every year by 10–16% in spite of the failures of individual companies and initiatives and the economic slowdown.

The rising price of petroleum, along with repercussions of the 2008–2012 financial meltdown, has motivated people to shop online and look for bargains where price comparison is easy and fast (e.g., try to find the price of an item on Amazon.com). Another important factor is the increase in mobile devices and especially smartphones. According to Mashable (2012) there will be more than smartphones than humans on the plant soon.

According to Gartner Inc. (2012), smartphone sales rose more than 42% in the 2nd quarter of 2012; this trend is forecasted to continue through the next few years.

Gartner Inc. (2011) also predicts that by 2015, companies will generate 50% of Web sales through their social presence and mobile applications.

The future of EC depends of technological, organizational, and societal trends. Piastro (2010) lists the top 10 trends that are shaping the future of e-commerce and Gartner Inc., publishes a list of the "Top 10 Strategic Technology Trends'

every year. See **gartner.com/newsroom/id/2603623** for the 2014 list that includes several EC topics (e.g., mobile apps, Internet of things).

SECTION 1.8 REVIEW QUESTIONS

1. List the major technological and non technological barriers and limitations to EC.
2. Describe some of the benefits of studying EC.
3. How can EC help entrepreneurship?
4. Summarize the major points involved with the future of e-commerce.

1.9 OVERVIEW OF THIS BOOK

This book is composed of 15 chapters and an online chapter, grouped into five parts, as shown in Figure 1.8. The last chapter is available at the text's website. Additional content, including online supplemental material for each chapter, is also available online at the book's website.

The specific parts and chapters of this textbook are as follows.

Part I: Introduction to E-Commerce and E-Marketplaces

This section of the book includes an overview of EC and its content, benefits, limitations, and drivers, which are presented in Chapter 1. Chapter 2 presents electronic markets and their mechanisms, such as electronic catalogs and auctions. This chapter also includes a presentation of Web 2.0 tools of social networks and virtual worlds.

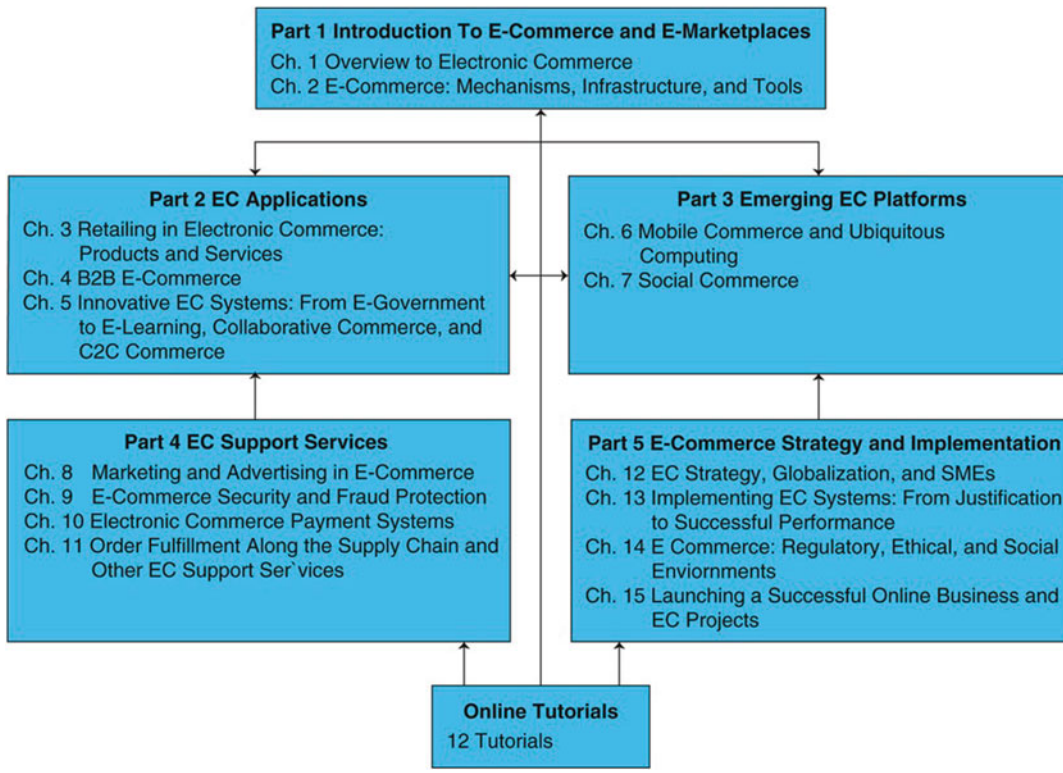

Figure 1.8 Plan of the book

Part II: EC Applications

This section includes three chapters. Chapter 3 describes e-tailing (B2C), including some of its most innovative applications for selling products online. It also describes the delivery of services, such as online banking, travel, and insurance. In Chapter 4, we introduce B2B EC and describe company-centric models (one buyer–many sellers, one seller–many buyers) as well as electronic exchanges (many buyers and many sellers). E-government, e-learning, knowledge management, and C2C are the major subjects of Chapter 5.

Part III: Emerging EC Delivery Platforms

In addition to traditional EC delivery platforms, described in Part II we present in the three chapters of Part III the following topics: Chapter 6 covers the area of mobile commerce and ubiquitous computing. In Chapter 7 we cover the area of social commerce and social media marketing. The part concludes with enterprise social commerce (Chapter 8).

Part IV: EC Support Services

Part IV examines issues involving the support services needed for EC applications in four chapters. Chapter 9 explains consumer behavior in cyberspace, online market research, and Internet advertising. Chapter 10 delves into EC security and fraud protection. Chapter 11 discusses electronic payments, and Chapter 12 deals with order fulfillment.

Part V: EC Strategy and Implementation

Part V includes four chapters. Chapter 13 examines e-strategy and planning, including going global and the impact of EC on small businesses. Chapter 14 deals mostly with justification and economics of EC. In Chapter 15 we cover ethical, legal, and societal issues.

Part VI: Launching Online Businesses and EC Projects

Chapter 16 deals with creating, operating, and maintaining an Internet company. It also discusses initiating EC initiatives and creating EC content. Chapter 16 also addresses EC application development processes and methods.

Online Mini Tutorials

Five tutorials are available at the book's website (**affordable-ecommerce-textbook.com/turban**).

T1 e-CRM
T2 EC Technology: EDI, Extranet, RFID, and Cloud Computing
T3 Business Intelligence, Data, Text, and Web Mining
T4 Competition in Cyberspace
T5 E-Collaboration

Online Supplements

A large number of online files organized by chapter number support the content of each chapter.

They are available at **affordable-ecommerce-textbook.com/turban**.

MANAGERIAL ISSUES

Some managerial issues related to this introductory chapter are as follows.

1. **Why is B2B e-commerce so essential and successful?** B2B EC is essential for several reasons**.** First, some B2B models are easier to implement than B2C models. The volume and value of transactions is larger in B2B than in

B2C, and the potential savings are larger and easier to justify in contrast to B2C, which has several major problems, ranging from channel conflict with existing distributors to fraud to a lack of a critical mass of buyers. Many companies can start B2B by simply buying from existing online stores and B2B exchanges or selling electronically by joining existing marketplaces or an auction house. The problem is determining *what* and *where* to buy or sell.

2. **Which EC business model should I choose?** Beginning in early 2000, the news was awash with stories about the failure of many dotcoms and EC projects. Industry consolidation often occurs after a "gold rush." About 100 years ago, hundreds of companies tried to manufacture cars, following Ford's success in the United States; only three survived. The important thing is to learn from the successes and failures of others, and discover the right business model for each endeavor. For lessons that can be learned from EC successes and failures, see Chapters 3 and 14.
3. **How can we exploit social commerce?** There are major possibilities here. Some companies even open their own social networks. Advertising is probably the first thing to consider. Recruiting can be a promising avenue as well. Offering discounted products and services should also be considered. Providing customer services and conducting market research can be a useful activity as well. Finally, the ultimate goal is associating the social network with commerce so that revenue is created.
4. **What are the top challenges of EC today?** The top 10 technical issues for EC (in order of their importance) are security, adequate infrastructure, virtualization, back-end systems integration, more intelligent software, cloud computing, data warehousing and mining, scalability, and content distribution. The top 10 managerial issues for EC are justification, budgets, project deadlines, keeping up with technology, privacy issues, unrealistic management expectations, training, reaching new customers, improving customer ordering services, and finding qualified EC employees. Most of these issues are discussed throughout this book.

SUMMARY

In this chapter, you learned about the following EC issues as they relate to the chapter's learning objectives.

1. **Definition of EC and description of its various categories.** EC involves conducting transactions electronically. Its major categories are pure versus partial EC, Internet versus non-Internet, and electronic markets versus company-based systems.
2. **The content and framework of EC.** The applications of EC, and there are many, are based on infrastructures and are supported by people; public policy and technical standards; marketing and advertising; support services, such as logistics, security, and payment services; and business partners – all tied together by management.
3. **The major types of EC transactions.** The major types of EC transactions are B2B, B2C, C2C, m-commerce, intrabusiness commerce, B2E, c-commerce, e-government, social commerce, and e-learning.
4. **The drivers of EC.** EC is a major product of the digital and technological revolutions, which enables companies to simultaneously increase both growth and profits. These revolutions enables digitization of products, services, and information. A major driver of EC is the changing business environment. The rapid change is due to technological breakthroughs, globalization, societal changes, deregulation, and more. The changing business environment forces organizations to respond. Many traditional responses may not be sufficient because of the magnitude of the pressures and the pace of the changes involved. Therefore, organizations must frequently innovate and reengineer their operations. EC, due to its characteristics is a necessary partner for this process.

   Finally, EC is driven due to its ability to provide a much needed strategic advantage so organizations can compete better.

5. **Benefits of EC to organizations, consumers, and society.** EC offers numerous benefits to all participants. Because these benefits are substantial, it looks as though EC is here to stay and cannot be ignored. Also, organizations can go into remote and global markets for both selling and buying at better prices. Organizations can speed time-to-market to gain competitive advantage. They can improve the internal and external supply chain as well as increase collaboration. Finally, they can better comply with government regulations.
6. **E-commerce 2.0 and social media.** This refers to the use of social computing in business, often through the use of Web 2.0 tools (such as blogs, wikis) with its social media framework, as well as the emergence of enterprise social networking and commercial activities in virtual worlds. Social and business networks attract huge numbers of visitors.
7. **Describe social commerce and social software.** Companies are beginning to exploit the opportunity of conducting business transactions in social networks and by using social software such as blogs. Major areas are advertising, shopping, customer service, recruiting, and collaboration.
8. **The elements of the digital world.** The major elements of the digital world are the digital economy, digital enterprises, and digital society. They are diversified and expanding rapidly.

   The digital world is accompanied by social businesses and social customers.
9. **Business pressures.** The major pressures include: market and economic factors (e.g., competition, globalization, product innovation), societal pressures (e.g., regulations, social customers, social responsibility), and technological pressures (e.g., new products, obsolescence, cheaper technologies). Organizational responses can be traditional (e.g., niche market, cost reduction, CRM) and technology based (innovations, automation, e-commerce).
10. **The major EC business models.** The major EC business models include online direct marketing, electronic tendering systems, name-your-own-price, affiliate marketing, viral marketing, group purchasing, online auctions, mass customization (make-to-order), electronic exchanges, supply chain improvers, finding the best price, value-chain integration, value-chain providers, information brokers, bartering, deep discounting, and membership.
11. **Limitations of e-commerce.** The major limitations of EC are the resistance to new technology, fear from fraud, integration with other IT systems may be difficult, costly order fulfillment, privacy issue, unclear regulatory issues, lack of trust in computers, and unknown business partners, difficulties to justify EC initiatives, and lack of EC skilled employees.

Key Terms

Brick-and-mortar (old economy) organizations
Business model
Business-to-business (B2B)
Business-to-business-to-consumer (B2B2C)
Business-to-consumer (B2C)
Business-to-employees (B2E)
Click-and-mortar (click-and-brick) organizations
Collaborative commerce (c-commerce)
Consumer-to-business (C2B)
Consumer-to-consumer (C2C)
Corporate portal
Digital economy
Digital enterprise
E-business
E-government
Electronic commerce (EC)
Electronic market (e-marketplace)
E-tailing
Ethics
Extranet
F-commerce
Intrabusiness EC
Intranet
Sharing economy

Social business
Social commerce
Social computing
Social (digital) customer
Social enterprise
Social media
Social network
Social networking
Social networking services (SNSs)
Tendering (bidding) system
Value proposition
Virtual (pure-play) organizations
Virtual world
Web 2.0

Discussion Questions

1. Compare brick-and-mortar and click-and-mortar organizations.
2. Why is buying with a smart card from a vending machine considered EC?
3. Explain how EC can reduce cycle time, improve employees' empowerment, and facilitate customer service.
4. Compare and contrast viral marketing with affiliate marketing.
5. Identify the contribution of Web 2.0. What does it add to EC?
6. Discuss the reasons companies embark on social commerce.
7. Distinguish an enterprise social network from a public one such as Facebook.
8. Carefully examine the non-technological limitations of EC. Which are company-dependent and which are generic?
9. Why are virtual worlds such as Second Life related to EC?
10. Relate the social customer to social business.

Topics for Class Discussion and Debates

1. How can EC be both a business pressure and an organizational response to other business pressures?
2. Debate: Does digital business eliminate the "human touch" in trading? And if "yes," is it really bad?
3. Why do companies frequently change their business models? What are the advantages? The disadvantages?
4. Debate: EC eliminates more jobs than it creates. Should we restrict its use and growth?
5. Debate: Will online fashion hurt traditional fashion retailers?
6. Search for information on the enterprise of the future. Start with **ibm.com**.In one or two pages, summarize how the enterprise of the future differs from today's enterprise.
7. Read McDonald's actions at P&G (McDonald 2011). Discuss the various e-commerce and other digital activities. Discuss the need for such a revolution.
8. Investigate why the one day sales of Single Day in China generated more than twice the money generated on Cyber Monday in the U.S. (see Wang and Pfanner 2013).

Internet Exercises

1. Enter **exitingcommerce.com** and find recent information about emerging EC models and the future of the filed.
2. Visit **amazon.com** and locate recent information in the following areas:
   (a) Find the five top-selling books on EC.
   (b) Find a review of one of these books.
   (c) Review the personalized services you can get from Amazon.com and describe the benefits you receive from shopping there.
   (d) Review the products directory.
3. Visit **priceline.com** and **zappos.com** and identify the various business revenue models used by both. Discuss their advantages.
4. Go to **nike.com** and design your own shoes. Next, visit **office.microsoft.com** and create your own business card. Finally, enter **jaguar.com** and configure the car of your dreams. What are the advantages of each activity? The disadvantages?
5. Try to save on your next purchase. Visit **letsbuyit.com**, **kaboodle.com**, **yub.com**, and **buyerzone.com**. Which site do you prefer? Why?
6. Enter **espn.go.com**, **123greetings.com**, and **facebook.com** and identify and list all the revenue sources on each of the companies' sites.
7. Enter **philatino.com**, **stampauctioncentral.com**, and **statusint.com**. Identify the business model(s) and revenue models they use. What are the benefits to sellers? To buyers?

8. Enter **lowes.com**. View the "design it" online feature and the animated "How Tos." Examine the Project Calculators and Gift Advisor features. Relate these to the business models and other EC features in this chapter.
9. Go to **zipcar.com**. What can this site help you do?
10. Enter **digitalenterprise.org**. Prepare a report regarding the latest EC models and developments.
11. Visit some websites that offer employment opportunities in EC (such as **execunet.com** and **monster.com**). Compare the EC salaries to salaries offered to accountants. For other information on EC salaries, check *Computerworld*'s annual salary survey, **unixl.com**, and **salary.com**.
12. Visit **bluenile.com**, **diamond.com**, and **jewelryexchange.com**. Compare the sites. Comment on the similarities and the differences.
13. Visit **ticketmaster.com**, **ticketonline.com**, and other sites that sell event tickets online. Assess the competition in online ticket sales. What services do the different sites provide?
14. Enter the Timberland Company (**timberland.com**) and design a pair of boots. Compare it to building your own sneakers at **nike.com**. Compare these sites to **zappos.com/shoes**.
15. Examine two or three of the following sites: **prosper.com**, **swaptree.com**, **peerflix.com**, **bigvine.com**, etc. Compare their business and revenue models.

Team Assignments and Projects

1. Read the opening case and answer the following questions:
   (a) In what ways you think Starbucks increases its brand recognition with its EC initiatives?
   (b) Some criticize My Starbucks Idea as an ineffective "show off." Find information about the pros and cons of the program. (See Starbucks Ideas in Action Blog).
   (c) Starbucks initiates discussions on Facebook about non-business topics such as the marriage equality bill, Why?
   (d) How customers are being kept involved and engaged in the various EC initiatives.
   (e) Starbucks believes that its digital and social initiatives are "highly innovative and cause dramatic changes in consumer behavior." Discuss.
   (f) View the video available at Stelzner (2010), (8 minutes) and answer the following:
      1. How does Starbucks uses video marketing in social media?
      2. How does the company listen to their customers?
      3. What are some tips for success and for things to avoid?
      4. Enter **facebook.com/starbucsk**. Summarize your impressions with the site.
2. Each team will research two EC success stories. Members of the group should examine companies that operate solely online and some that extensively utilize a click-and-mortar strategy. Each team should identify the critical success factors for their companies and present a report to the other teams.
3. Watch the video *Part 1-E-Commerce* (8 minutes) at **youtube.com/watch?v=OY2tcQ574Ew.**
   (a) Update all the data shown in the video.
   (b) What fundamental change is introduced by EC?
   (c) What is the first mover advantage discussed in the video?
   (d) Amazon.com and other companies that lost money during the time the video was made are making lots of money today; find out why.
   (e) Identify all the EC business models discussed in the video.
   (f) How can one conduct an EC business from home?
   (g) EC is considered a disruptor. In what ways?
4. Conduct a search on 'social business.' Start at **eweek.com**. Divide the work between several teams, each team covers one topic and each team writes a report.
5. Research the status of self-driven cars. Start by reading Neil (2012). Outline the pro and con points. Why this is considered an EC. Make a presentation.
6. Find the recent report on 'HBR/McKiney M-Prize for Management Innovation at

mixprize.org/m-prize/innovating-innovation. Identify the e-commerce cases among the 20 finalists. What is unique in each case?

7. Compare Net-a-Porter with Myhabit from Amazon, and boutiques from Google and other sites that discount designer items. Also, see what Groupon offers in this area. Analyze the competitive advantage of each. Write a report.

CLOSING CASE: E-COMMERCE AT THE NATIONAL FOOTBALL LEAGUE (NFL)

Professional sports are multibillion-dollar businesses in the United States and they are growing rapidly in many other countries. The National Football League (NFL), which consists of 32 teams, is a premier brand of the most popular sport in the United States – football. The NFL uses e-commerce and other information technologies extensively to run its business efficiently. The following are some examples of e-commerce activities the NFL conducts both at the corporate level and the individual team level.

Selling Online

In addition to the official store (**nflshop.com**) and the individual team stores, (e.g., the Atlanta Falcons), there are dozens of independent stores that sell authentic as well as replicas of jerseys, hats, shirts, and other team merchandise. Most of these sales are done online, which enables you to buy your favorite team's items from anywhere; you can also save with coupons. It is basically a multibillion-dollar B2C business, supported by search and shopping tools (see Chapter 2), including price comparisons (e.g., compare prices at **bizrate.com/electronics-cases-bags/5518586225.html**).

Several online stores sell tickets for NFL events, including resale tickets. For example, see **ticketsnow.com/nfl-tickets**.

Selling in China

In October 2013, the NFL opened its official online store in China (**nflchinashop.com**). To embark on this venture the NFL used two partners: Export Now to handle all the administration of the transactions, and Tmall.com (China's leading EC seller with over 500 million registered members).

Information, News, and Social Networks

The NFL is on Facebook where there is a company description and many posts by its fans. It is also on Twitter where you can find information on upcoming NFL events, and be one of its 2,000,000+ followers. You can also get local news including real-time sports scores texted to your smartphone (e.g., see **textme.azcentral.com**). The popularity of social media used by players created a need for a policy regarding the use of social networks before and after (but not during) games. For the policy, see the article titled "Social Media Before, After Games" at **sports.espn.go.com/nfl/news/story?id= 4435401**.

Videos and Fantasy Games

Madden NFL 11 is a video game available across all major consoles with an adaptation for iPhone and iPad versions of the game. For details see **en.wikipedia.org/wiki/Madden_NFL_11**. Related to these games are the NFL fantasy games that are available for free at **fantasy.nfl.com**.

Smartphone Experience

Smartphones, and especially iPhones, now allow users to go online to view games in real time (some are costly). You can also use the iPhone to view photos in the stadium that are projected on TV, and much more (e.g., for many applications see McCafferty 2008).

Wireless Applications in Stadiums

Several stadiums are equipped with state-of-the-art wireless systems. One example is the University of Phoenix Stadium, which is the home of the Arizona Cardinals. Fans can access many high-definition TVs in real time. Fans with smartphones can get real-time scores or purchase food and other merchandise. The system also enables employees to process ticket sales quickly. Also, fans can watch the game while buying food in the stadium. The Cardinal's marketing department can advertise the forthcoming games and other events on the system. It also delivers data to coaches as needed during games. A similar system (used in Sun Life Stadium, home of the Miami Dolphins) enable personalized replay during games (see the video about a special portable device titled "Miami Dolphins Transform Sun Life Stadium into Entertainment Destination for Fans" at **youtube.com/watch?v=t2qErS7f17Y**). Also, you can order food online, have it delivered to your seat, and pay for it electronically. Finally, you can play fantasy games while in the stadium. These EC applications are designed to make fans happy and to generate revenue.

Other Applications

The NFL uses many other EC applications for the management of transportation to the Super Bowl, security implementation, procurement (B2B), providing e-CRM, and much more.

Sources*:* Based on McCafferty (2008), Hickins (2009), and material collected on Facebook, and Twitter (accessed February 2014).

Questions

1. Identify all applications related to B2C in online stores.
2. Identify all B2C applications inside the stadium.
3. Identify all B2E applications inside the stadium.
4. Relate online game playing to EC in NFL.
5. Compare the NFL information available on Facebook and on Twitter.
6. Find additional NFL-related applications not cited in this case.
7. Enter **ignify.com/Atlanta_Falcons_eCommerce_Case_Study.html**. Read the case "Atlanta Falcons E-Commerce Case Study," then go to the Falcons' online store and describe all major EC models that are used there.
8. Find information on ball tracking technology that can be used by the NFL.
9. Compare *Madden NFL 11* with NFL fantasy games.

Online Resources available at **affordable-ecommerce-textbook.com/turban**

Online Files

W1.1 Application Case: Dell – Using E-Commerce for Success
W1.2 Application Case: Campusfood.com – Student Entrepreneurs
W1.3 Major Characteristics of Web 2.0
W1.4 Representative EC Business Models

Online Tutorial

Five tutorials are available
Miscellaneous EC-Related Resources

Comprehensive Educational Websites

ecommerce-journal.com: Source for news, events, etc., about e-commerce.
dictionary.reference.com: Just enter the topic of your interest.
libguides.rutgers.edu/ecommerce: The Electronic Resource Guide offers resources and links to Internet statistics – see ClickZ Stats, Nielsen/NetRatings, U.S. Census Bureau, and comScore.
ecommerce-europe.eu: A source of e-commerce news in Europe.
webopedia.com: Online encyclopedia dedicated to computer technology.
whatis.techtarget.com: Detailed definitions of most e-commerce and other technological topics.

event.on24.com Register then watch the Webcast: Oracle Webcast "Is Social Business and Evolution or a Revolution?

socialcommercetoday.com: A comprehensive resources for social commerce activities.

GLOSSARY

Brick-and-mortar (old economy) organizations Purely physical organizations (corporations) doing business offline.

Business model The manner in which business is done to generate revenue and create value.

Business-to-business (B2B) All transactions take place between and among organizations.

Business-to-consumer (B2C) Retail transactions of products or services from businesses to individual shoppers.

E-tailing Online retailing, usually B2C.

Business-to-business-to-consumer (B2B2C) A business (B1) sells a product to another business (B2). B2 then sells or gives away the product to individuals who may be B2's own customers or employees.

Business-to-employees (B2E) The delivery of services, information, or products from organizations to their employees.

Click-and-mortar (click-and-brick) organizations Organizations that conduct some e-commerce activities, usually as an additional marketing channel.

Collaborative commerce (c-commerce) Refers to online activities and communications done by parties working to attain the same goal.

Consumer-to-business (C2B) People use the Internet to sell products or services to individuals and organizations. Alternatively, individuals use C2B to bid on products or services.

Consumer-to-consumer (C2C) E-commerce category in which individual consumers sell to or buy from other consumers.

Corporate portal A gateway for customers, employees, and partners to reach corporate information and to communicate with the company.

Digital economy An economy that is based on online transactions, mostly e-commerce. Also called the *Internet economy.*

Digital enterprise A new business model that uses IT to gain competitive advantage by increasing employee productivity, by improving efficiency and effectiveness of business processes and by better interactivity between vendors and customers.

E-business A broader definition of EC, not just the buying and selling of goods and services, but conducting all kinds of business online such as servicing customers, collaborating with business partners, delivering e-learning, and conducting electronic transactions within an organization.

E-government A government agency buys or provides goods, services, or information from or to businesses (G2B) or from or to individual citizens (G2C). Governments can deal also with other governments (G2G).

Electronic commerce (EC) Using the Internet and intranets to purchase, sell, transport, or trade data, goods, or services.

Electronic market (e-marketplace) An online location where buyers and sellers conduct commercial transactions such as selling goods, services, or information.

Ethics Standards of right and wrong.

Extranet A network that uses Internet technology to link intranets of several organizations in a secure manner.

F-commerce Rapidly increasing commercial activities conducted on or facilitated by Facebook.

Intrabusiness EC E-commerce category that refers to EC transactions among various organizational departments and individuals.

Intranet An internal corporate or government network that uses Internet tools, such as Web browsers, and Internet protocols.

Sharing economy An economic system constructed around the concept of sharing goods and services among the participating people.

Social business "An organization that has put in place the strategies, technologies and processes to systematically engage all the individuals of its ecosystem (employees, customers, partners, suppliers) to maximize the co-created value." (Social Business Forum 2012)

Social commerce The e-commerce activities conducted in social networks by using social software.

Social computing Computing systems that involve social interactions and behavior.

Social (digital) customers Members of social networks who share opinions about products, services, and vendors, do online social shopping, and understand their rights and how to use the wisdom and power of social communities to their benefit.

Social enterprise These organizations embrace the main goal of focusing on social issues. The enterprises generate revenue. The profits do not go to owners and shareholders, but are put back into the company and used toward building positive social change.

Social media Involves user generated online text, image, audio, and video content that are delivered via Web 2.0 platforms and tools. The media is used primarily for social interactions and conversations such as to share opinions, experiences, insights, and perceptions and to collaborate, all online.

Social networking The execution of any Web 2.0 activity, such as blogging or having a presence in a social network. It also includes all activities conducted in social networks.

Social network A social entity composed of nodes (which are generally individuals, groups, or organizations) that are connected by links such as hobbies, friendship or profession. The structures are often very complex.

Social networking service (SNS) A service that builds online communities by providing an online space for people to build free homepages and that provides basic communication and support tools for conducting different activities in the social network.

Tendering (bidding) system System through which large organizational buyers make large-volume or large-value purchases (also known as a *reverse auction)*.

Value proposition Refers to the benefits, including the intangible ones that a company hopes to derive from using its business model.

Virtual (pure-play) organizations Organizations that conduct their business activities solely online.

Virtual world A 3-D computer-based simulated environment built and owned by its residents. In addition to creating buildings, people can create and share cars, clothes, and many other items. Community members inhabit virtual spaces and interact and socialize via *avatars*.

Web 2.0 The second generation of Internet-based tools and services that enables users to easily generate content, share media, and communicate and collaborate, in innovative ways.

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