CHAPTER 3

E-Business

CHAPTER OUTLINE

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- Evolution of the Internet
- Accessing Internet Information
- Providing Internet Information

SECTION 3.2
E-Business

- E-Business Basics
- E-Business Models
- Organizational Strategies for E-Business
- Measuring E-Business Success
- E-Business Benefits and Challenges
- New Trends in E-Business: E-Government and M-Commerce


Amazon.com—Not Your Average Bookstore

Jeffrey Bezos, CEO and founder of Amazon.com, is running what some people refer to as the "world's biggest bookstore." The story of Bezos's virtual bookstore teaches many lessons about online business. Out of nowhere, this digital bookstore turned an industry upside down. What happened here was more than just creating a Web site. Bezos conceived and implemented an intelligent, global digital business. Its business is its technology; its technology is its business. Shocking traditional value chains in the bookselling industry, Amazon opened thousands of virtual bookstores in its first few months of operation.

Bezos graduated from Princeton and was the youngest vice president at Banker's Trust in New York. He had to decide if he would stay and receive his 1994 Wall Street bonus or leave and start a business on the Internet. "I tried to imagine being 80 years old, looking back on my life. I knew that I would hardly regret having missed the 1994 Wall Street bonus. But having missed being part of the Internet boom—that would have really hurt," stated Bezos. One evening he compiled a list of 20 products he believed would sell on the Internet. Books, being small-ticket items that are easy and inexpensive to ship, were on the top of the list. It was also apparent that no bookstore could conceivably stock more than a fraction of the 5 million books published annually. Bezos, who had never sold a book in his life, developed a strategic plan for selling books on the Internet. Amazon launched three years later. In the fall of 1994, Amazon filled its first book order—personally packaged by Bezos and his wife.

Amazon's E-Business Strategy

Amazon does not operate any physical stores. All of its sales occur through its Web site. It is consistently pushing the technological envelope in its search to provide a satisfying, personalized experience for its customers. What started as a human-edited list of product suggestions morphed into a sophisticated computer-generated recommendation engine. The company captures the comments and recommendations of buyers for site visitors to read—similar to the friendly salesperson in a store offering advice on which books to buy. The Web site tracks customer traffic, the number of visitors who access the site, how long they stay, what pages they click on, and so forth. The company uses the information to evaluate buying and selling patterns and the success of promotions. Amazon has quickly become a model success story for e-businesses around the globe.

Amazon retains customers with Web site features such as personalized recommendations, online customer reviews, and "1-click ordering"—the creation of a true one-stop shopping establishment where customers can find anything they want to buy online. Through the Amazon.com Auctions, zShops (independent third-party sellers), and more recently the Amazon.com Marketplace (where customers can sell used items), the company is able to offer its customers almost everything.

Shaping Amazon's Future

Amazon released a free Web service that enables its business partners (whom Amazon calls "associates") to interact with its Web site. More specifically, this Web service allows its partners to access catalog data, to create and populate an Amazon.com shopping cart, and even to initiate the checkout process. In 16 months, the company has inspired 30,000 associates to invent new ways to extend Amazon's visibility on the Internet. With over 30 million customers, Amazon has become a household brand.[1]

INTRODUCTION

One of the biggest forces changing business is the Internet. Technology companies such as Intel and Cisco were among the first to seize the Internet to overhaul their operations. Intel deployed Web-based automation to liberate its 200 salesclerks from tedious order-entry positions. Instead, salesclerks concentrate on customer relationship management functions such as analyzing sales trends and pampering customers. Cisco handles 75 percent of its sales online, and 45 percent of online orders never touch employees' hands. This type of Internet-based ordering has helped Cisco hike productivity by 20 percent over the past two years.[2]

E-business is the conducting of business on the Internet, not only buying and selling, but also serving customers and collaborating with business partners. Organizations realize that putting up simple Web sites for customers, employees, and partners does not create an e-business. E-business Web sites must create a buzz, much as Amazon has done in the bookselling industry. E-business Web sites must be innovative, add value, and provide useful information. In short, the site must build a sense of community and collaboration, eventually becoming the port of entry for business. Understanding e-business begins with understanding:

- Disruptive technology.
- Evolution of the Internet.
- Accessing Internet information.
- Providing Internet information.

section 3.1 BUSINESS AND THE INTERNET

LEARNING OUTCOMES

3.1. Compare disruptive and sustaining technologies.

3.2. Explain how the Internet caused disruption among businesses.

3.3. Define the relationship between the Internet and the World Wide Web.

3.4. Describe the different methods an organization can use to access information.

3.5. Compare the three different types of service providers.

DISRUPTIVE TECHNOLOGY

Polaroid, founded in 1937, produced the first instant camera in the late 1940s. The Polaroid camera was one of the most exciting technological advances the photography industry had ever seen. By using a Polaroid camera, customers no longer had to depend on others to develop their pictures. The technology was innovative and the product was high-end. The company eventually went public, becoming one of Wall Street's most prominent enterprises, with its stock trading above $60 in 1997. In 2002, the stock was down to 8 cents and the company declared bankruptcy.[3]

How could a company like Polaroid, which had innovative technology and a captive customer base, go bankrupt? Perhaps company executives failed to use Porter's Five Forces to analyze the threat of substitute products or services. If they had, would they have noticed the two threats, one-hour film processing and digital cameras, that eventually stole Polaroid's market share? Would they have understood that their customers, people who want instant access to their pictures without having a third party involved, would be the first to use one-hour film processing and the first to purchase digital cameras? Could the company have found a way to compete with one-hour film processing and the digital camera to save Polaroid?

Most organizations face the same dilemma as Polaroid—the criteria an organization uses to make business decisions for its present business could possibly create

issues for its future business. Essentially, what is best for the current business could ruin it in the long term. Some observers of our business environment have an ominous vision of the future—digital Darwinism. ***Digital Darwinism*** implies that organizations which cannot adapt to the new demands placed on them for surviving in the information age are doomed to extinction.[4]

Disruptive versus Sustaining Technology

A ***disruptive technology*** is a new way of doing things that initially does not meet the needs of existing customers. Disruptive technologies tend to open new markets and destroy old ones. A ***sustaining technology***, on the other hand, produces an improved product customers are eager to buy, such as a faster car or larger hard drive. Sustaining technologies tend to provide us with better, faster, and cheaper products in established markets. Incumbent companies most often lead sustaining technology to market, but virtually never lead in markets opened by disruptive technologies. Figure 3.1 displays companies that are expecting future growth to occur from new investments (disruptive technology) and companies that are expecting future growth to occur from existing investments (sustaining technology).

Disruptive technologies typically cut into the low end of the marketplace and eventually evolve to displace high-end competitors and their reigning technologies. Sony is a perfect example of a company that entered the low end of the marketplace and eventually evolved to displace its high-end competitors. Sony started as a tiny company that built portable, battery-powered transistor radios people could carry around with them. The sound quality of Sony's transistor radios was poor because

FIGURE 3.1

Disruptive versus Sustaining Technology

Fortune 500 Rank	Company	Expected Returns on New Investment	Expected Returns on Existing Investments
53	Dell Computer	78%	22%
47	Johnson & Johnson	66	34
35	Procter & Gamble	62	38
6	General Electric	60	40
77	Lockheed Martin	59	41
1	Wal-Mart	50	50
65	Intel	49	51
49	Pfizer	48	52
9	IBM	46	54
24	Merck	44	56
92	Cisco Systems	42	58
18	Home Depot	37	63
16	Boeing	30	70
11	Verizon	21	79
22	Kroger	13	87
32	Sears Roebuck	8	92
37	AOL Time Warner	8	92
3	General Motors	5	95
81	Phillips Petroleum	3	97

Company	Disruptive Technology
Charles Schwab	Online brokerage
Hewlett-Packard	Microprocessor-based computers; ink-jet printers
IBM	Minicomputers; personal computers
Intel	Low-end microprocessors
Intuit	QuickBooks software; TurboTax software; Quicken software
Microsoft	Internet-based computing; operating system software; SQL and Access database software
Oracle	Database software
Quantum	3.5-inch disks
Sony	Transistor-based consumer electronics

FIGURE 3.2
Companies That Capitalized on Disruptive Technology

the transistor amplifiers were of lower quality than traditional vacuum tubes, which produce a better sound. But, customers were willing to overlook sound quality for the convenience of portability. With the experience and revenue stream from the portables, Sony improved its technology to produce cheap, low-end transistor amplifiers that were suitable for home use and invested those revenues to improve the technology further, which produced better radios.[5]

The *Innovator's Dilemma*, a book by Clayton M. Christensen, discusses how established companies can take advantage of disruptive technologies without hindering existing relationships with customers, partners, and stakeholders. Xerox, IBM, Sears, and DEC all listened to existing customers, invested aggressively in technology, had their competitive antennae up, and still lost their market-dominant positions. Christensen states that these companies may have placed too much emphasis on satisfying customers' current needs, while neglecting to adopt new disruptive technology that will meet customers' future needs, thus causing the companies to eventually lose market share. Figure 3.2 highlights several companies that launched new businesses by capitalizing on disruptive technologies.[6]

The Internet—Business Disruption

When the Internet was in its early days, no one had any idea how massive it would become. Computer companies did not think it would be a big deal; neither did the phone companies or cable companies. Difficult to access and operate, it seemed likely to remain an arcane tool of the Defense Department and academia. However, the Internet grew, and grew, and grew. It began with a handful of users in the mid-1960s and reached 1 billion by 2005 (see Figure 3.3). Estimates predict there will be more than 3 billion Internet users by 2010. Already, villages in Indonesia and India have Internet access before they have electricity.[7] Figure 3.4 displays several ways the Internet is changing business.

EVOLUTION OF THE INTERNET

During the Cold War in the mid-1960s, the U.S. military decided it needed a bombproof communications system, and thus the concept for the Internet was born. The system would link computers throughout the country, allowing messages to get though even if a large section of the country was destroyed. In the early days, the only linked computers were at government think tanks and a few universities. The Internet was essentially an emergency military communications system operated by the Department of Defense's Advanced Research Project Agency (ARPA) and called ARPANET. Formally defined, the ***Internet*** is a global public network of computer networks that pass information from one to another using common

FIGURE 3.3

Worldwide Internet Usage Statistics

Internet Usage Statistics–The Big Picture World Internet Users and Population Statistics						
Region	**Population (2006)**	**% of World Population**	**Internet Users**	**Internet Penetration (% of Population)**	**% of World Usage**	**Usage Growth. 2000–2005**
Africa	915,210,928	14.1%	22,737,500	2.5%	2.2%	403.7%
Asia	3,667,774,066	56.4	364,270,713	9.9	35.7	218.7
Europe	807,289,020	12.4	290,121,957	35.9	28.5	176.1
Middle East	190,084,161	2.9	18,203,500	9.6	1.8	454.2
North America	331,473,276	5.1	225,801,428	68.1	22.2	108.9
Latin America/ Caribbean	553,908,632	8.5	79,033,597	14.3	7.8	337.4
Oceania/ Australia	33,956,977	0.5	17,690,762	52.9	1.8	132.2
WORLD TOTAL	**6,499,697,060**	**100%**	**1,017,859,457**	**15.7%**	**100%**	**182%**

FIGURE 3.4

The Internet's Impact on Business

Industry	Business Changes Due to Technology
Travel	Travel site Expedia.com is now the biggest leisure-travel agency, with higher profit margins than even American Express. Thirteen percent of traditional travel agencies closed in 2002 because of their inability to compete with online travel.
Entertainment	The music industry has kept Napster and others from operating, but $35 billion annual online downloads are wrecking the traditional music business. U.S. music unit sales are down 20 percent since 2000. The next big entertainment industry to feel the effects of e-business will be the $67 billion movie business.
Electronics	Using the Internet to link suppliers and customers, Dell dictates industry profits. Its operating margins have risen from 7.3 percent in 2002 to 8 percent in 2003, even as it takes prices to levels where rivals cannot make money.
Financial services	Nearly every public e-finance company left makes money, with online mortgage service Lending Tree growing 70 percent a year. Processing online mortgage applications is now 40 percent cheaper for customers.
Retail	Less than 5 percent of retail sales occur online. eBay is on track this year to become one of the nation's top 15 retailers, and Amazon.com will join the top 40. Wal-Mart's e-business strategy is forcing rivals to make heavy investments in technology.
Automobiles	The cost of producing vehicles is down because of SCM and Web-based purchasing. eBay has become the leading U.S. used-car dealer, and most major car sites are profitable.
Education and training	Cisco saved $133 million last year by moving training sessions to the Internet, and the University of Phoenix online college classes please investors.

computer protocols. ***Protocols*** are standards that specify the format of data as well as the rules to be followed during transmission.

In time, every university in the United States that had defense-related funding installed ARPANET computers. Gradually, the Internet moved from a military pipeline to a communications tool for scientists. As more scholars came online, system administration transferred from ARPA to the National Science Foundation. Years later, businesses began using the Internet, and the administrative responsibilities were once again transferred. Today, no one party operates the Internet; however, several entities oversee the Internet and set standards including:

- Internet Engineering Task Force (IETF): The protocol engineering and development arm of the Internet.
- Internet Architecture Board (IAB): Responsible for defining the overall architecture of the Internet, providing guidance and broad direction to the IETF.
- Internet Engineering Steering Group (IESG): Responsible for technical management of IETF activities and the Internet standards process.

Evolution of the World Wide Web

People often interchange the terms *Internet* and the *World Wide Web*, but these terms are not synonymous. Throughout the 1960s, 1970s, and 1980s, the Internet was primarily used by the Department of Defense to support activities such as e-mail and transferring files. The Internet was restricted to noncommercial activities, and its users included government employees, researchers, university professors, and students. The World Wide Web changed the purpose and use of the Internet.

The ***World Wide Web (WWW)*** is a global hypertext system that uses the Internet as its transport mechanism. ***Hypertext transport protocol (HTTP)*** is the Internet standard that supports the exchange of information on the WWW. By defining universal resource locators (URLs) and how they can be used to retrieve resources anywhere on the Internet, HTTP enables Web authors to embed hyperlinks in Web documents. HTTP defines the process by which a Web client, called a browser, originates a request for information and sends it to a Web server, a program designed to respond to HTTP requests and provide the desired information. In a hypertext system, users navigate by clicking a hyperlink embedded in the current document. The action displays a second document in the same or a separate browser window. The Web has quickly become the ideal medium for publishing information on the Internet and serves as the platform for the electronic economy. Figure 3.5 displays the reasons for the popularity and growth in the WWW.

The WWW remained primarily text-based until 1991 when two events occurred that would forever change the Web and the amount and quality of information available (see Figure 3.6). First, Tim Berners-Lee built the first Web site on August 6, 1991 (http://info.cern.ch/—the site has been archived). The site provided details about the World Wide Web including how to build a browser and set up a Web server. It also housed the world's first Web directory, since Berners-Lee later maintained a list of other Web sites apart from his own.[8]

Reasons for Growth of the World Wide Web
■ The microcomputer revolution made it possible for an average person to own a computer.
■ Advancements in networking hardware, software, and media made it possible for business PCs to be inexpensively connected to larger networks.
■ Browser software such as Microsoft's Internet Explorer and Netscape Navigator gave computer users an easy-to-use graphical interface to find, download, and display Web pages.
■ The speed, convenience, and low cost of e-mail have made it an incredibly popular tool for business and personal communications.
■ Basic Web pages are easy to create and extremely flexible.

FIGURE 3.5
Reasons for World Wide Web Growth

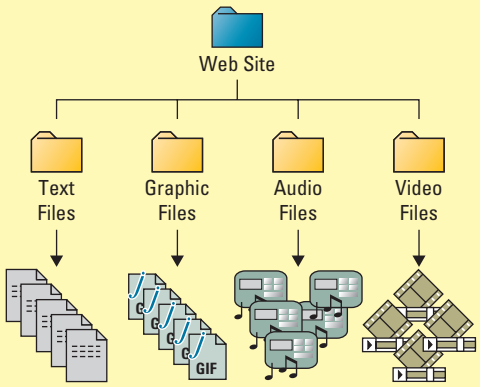
FIGURE 3.6

The Internet's Impact on Information

Internet's Impact on Information	
Easy to compile	Searching for information on products, prices, customers, suppliers, and partners is faster and easier when using the Internet.
Increased richness	***Information richness*** refers to the depth and breadth of information transferred between customers and businesses. Businesses and customers can collect and track more detailed information when using the Internet.
Increased reach	***Information reach*** refers to the number of people a business can communicate with, on a global basis. Businesses can share information with numerous customers all over the world.
Improved content	A key element of the Internet is its ability to provide dynamic relevant content. Buyers need good content descriptions to make informed purchases, and sellers use content to properly market and differentiate themselves from the competition. Content and product description establish the common understanding between both parties to the transaction. As a result, the reach and richness of that content directly affects the transaction.

FIGURE 3.7

File Formats Offered over the WWW



Second, Marc Andreesen developed a new computer program called the NCSA Mosaic (National Center for Supercomputing Applications at the University of Illinois) and gave it away! The browser made it easier to access the Web sites that had started to appear. Soon Web sites contained more than just text; they also had sound and video files (see Figure 3.7). These pages, written in the hypertext markup language (HTML), have links that allow the user to quickly move from one document to another, even when the documents are stored in different computers. Web browsers read the HTML text and convert it into a Web page.[9]

By eliminating time and distance, the Internet makes it possible to perform business in ways not previously imaginable. The ***digital divide*** is when those with access to technology have great advantages over those without access to technology. People living in the village of Siroha, India, must bike five miles to find a telephone. For over 700 million rural people living in India, the digital divide was a way of life, until recently. Media Lab Asia sells telephony and e-mail services via a mobile Internet kiosk mounted on a bicycle, which is known as an "info-thelas." The kiosk has an onboard computer equipped with an antenna for Internet service and a specially designed all-day battery. Over 2,000 villages have purchased the kiosk for $1,200, and another 600,000 villages are interested.[10]

ACCESSING INTERNET INFORMATION

Many restaurant and franchise experts believe that Cold Stone Creamery's franchisee intranet is what keeps the company on the fast track. Franchisee owners communicate with other owners through Creamery Talk, the company's intranet-based chat room.

Since it launched, Creamery Talk has turned into a franchisee's black book, with tips on everything from storefront design to equipment repair. When one owner's freezer broke recently, a post to the chat room turned up an easy fix involving a $21 motor fan.

Four common tools for accessing Internet information include:

- Intranet
- Extranet
- Portal
- Kiosk

Intranet

An ***intranet*** is an internalized portion of the Internet, protected from outside access, that allows an organization to provide access to information and application software to only its employees. An intranet is an invaluable tool for presenting organizational information as it provides a central location where employees can find information. It can host all kinds of company-related information such as benefits, schedules, strategic directions, and employee directories. At many companies, each department has its own Web page on the intranet for departmental information sharing. An intranet is not necessarily open to the external Internet and enables organizations to make internal resources available using familiar Internet clients, such as Web browsers, newsreaders, and e-mail.

Intranet publishing is the ultimate in electronic publishing. Companies realize significant returns on investment (ROI) simply by publishing information, such as employee manuals or telephone directories, on intranets rather than printed media.

Citigroup's Global Corporate and Investment Banking division uses an intranet to provide its entire IT department with access to all IT projects including information on project owners, delivery dates, key resources, budget information, and project metrics. Providing this information via an intranet, or one convenient location, has enabled Citigroup to gain a 15 percent improvement in IT project delivery.[11]

Extranet

An ***extranet*** is an intranet that is available to strategic allies (such as customers, suppliers, and partners). Many companies are building extranets as they begin to realize the benefit of offering individuals outside the organization access to intranet-based information and application software such as order processing. Having a common area where employees, partners, vendors, and customers access information can be a major competitive advantage for an organization.

Wal-Mart created an extranet for its suppliers, which can view detailed product information at all Wal-Mart locations. Suppliers log on to Wal-Mart's extranet and view metrics on products such as current inventory, orders, forecasts, and marketing campaigns. This helps Wal-Mart's suppliers maintain their supply chains and ensure Wal-Mart never runs out of products.[12]

Portal

Portal is a very generic term for what is in essence a technology that provides access to information. A ***portal*** is a Web site that offers a broad array of resources and services, such as e-mail, online discussion groups, search engines, and online shopping malls. There are general portals and specialized or niche portals. Leading general portals include Yahoo!, Netscape, Microsoft, and America Online. Examples of niche portals include Garden.com (for gardeners), Fool.com (for investors), and SearchNetworking.com (for network administrators).

Pratt & Whitney, one of the largest aircraft-engine manufacturers in the world, has saved millions of dollars with its field service portal initiative. Pratt & Whitney's sales and service field offices are geographically scattered around the globe and

were connected via expensive dedicated lines. The company saved $2.6 million annually by replacing the dedicated lines with high-speed Internet access to its field service portal. Field staff can find information they need in a fraction of the time it took before. The company estimates this change will save another $8 million per year in "process and opportunity" savings.[13]

Kiosk

A ***kiosk*** is a publicly accessible computer system that has been set up to allow interactive information browsing. In a kiosk, the computer's operating system has been hidden from view, and the program runs in a full-screen mode, which provides a few simple tools for navigation.

Jason Suker walked into the Mazda showroom in Bountiful, Utah, and quickly found what he was looking for in a car dealership—a Web kiosk, one of six stationed around the showroom. Using the Web kiosk, he could track down the latest pricing information from sites like Kelley Blue Book and Edmunds.com. Suker, eyeing a four-year-old limited-edition Miata in mint condition, quickly pulled up the average retail price on Kelley Blue Book. At $16,000, it was $500 more than the dealer's price. Then, on eBay, Suker checked bids for similar models and found they were going for far less. With a sales representative looking over his shoulder to confirm his findings, the skeptical Suker made a lowball offer and expected the worst: endless haggling over price. However, the sales representative, after commending Suker for his research talent, eventually compromised and offered up the Miata for $13,300.

It was an even better deal for Bountiful Mazda. By using a kiosk to help Suker find the bargain price he wanted, the dealership moved a used car (with a higher profit margin than a new model) and opened the door to the unexpected up-sell with a $1,300, 36,000-mile service warranty.[14]

PROVIDING INTERNET INFORMATION

British Airways, the $11.9 billion airline, outsourced the automation of its FAQ (frequently asked questions) Web pages. The airline needed to automatically develop, manage, and post different sets of FAQs for British Airway's loyalty program customers, allowing the company to offer special promotions based on the customer's loyalty program status (gold, silver, bronze). The company outsourced the project to application service provider RightNow Technologies. The new system is helping British Airways create the right marketing programs for the appropriate customer tier.[15]

There are three common forms of service providers including:

1. Internet service provider (ISP).
2. Online service provider (OSP).
3. Application service provider (ASP).

Internet Service Provider

An ***Internet service provider (ISP)*** is a company that provides individuals and other companies access to the Internet along with additional related services, such as Web site building. An ISP has the equipment and the telecommunication line access required to have a point of presence on the Internet for different geographic areas. Larger ISPs have their own high-speed leased lines so they are less dependent on telecommunication providers and can deliver better service to their customers. Among the largest national and regional ISPs are AT&T WorldNet, IBM Global Network, MCI, Netcom, UUNet, and PSINet.

Navigating the different options for an ISP can be daunting and confusing. There are more than 7,000 ISPs in the United States; some are large with household names, and others are literally one-person operations. Although Internet access is viewed as a commodity service, in reality features and performance can differ tremendously among ISPs. Figure 3.8 highlights common ISP features.

Common ISP Services

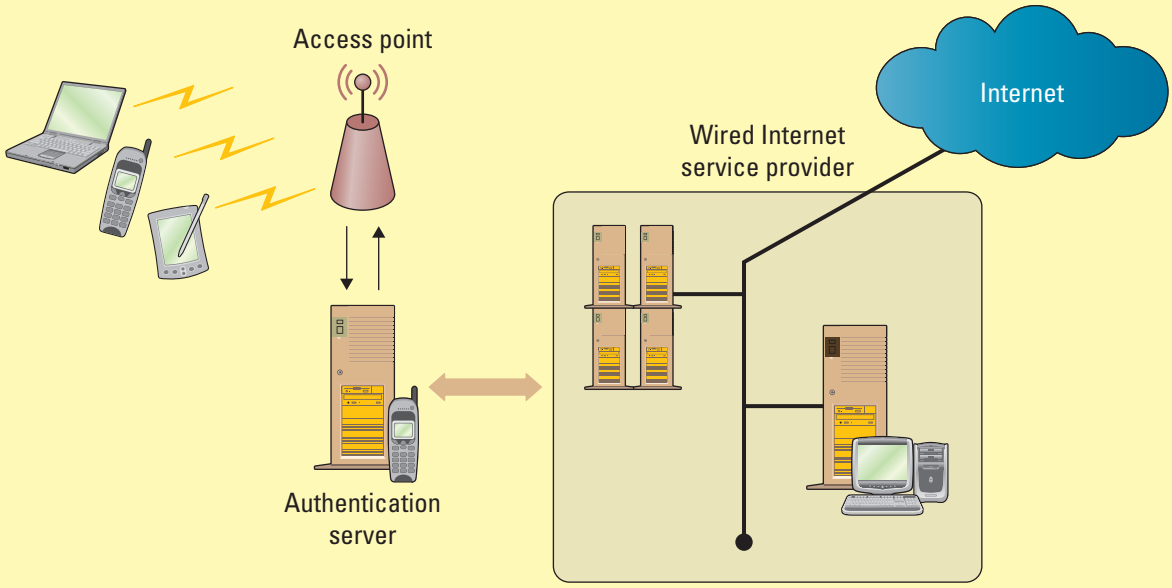
- **Web hosting.** Housing, serving, and maintaining files for one or more Web sites is a widespread offering.
- **Hard-disk storage space.** Smaller sites may need only 300 to 500 MB (megabytes) of Web site storage space, whereas other e-business sites may need at least 10 GB (gigabytes) of space or their own dedicated Web server.
- **Availability.** To run an e-business, a site must be accessible to customers 24x7. ISPs maximize the availability of the sites they host using techniques such as load balancing and clustering many servers to reach 100 percent availability.
- **Support.** A big part of turning to an ISP is that there is limited worry about keeping the Web server running. Most ISPs offer 24x7 customer service.

FIGURE 3.8
Common ISP Services

Another member of the ISP family is the ***wireless Internet service provider (WISP)***, an ISP that allows subscribers to connect to a server at designated hotspots or access points using a wireless connection. This type of ISP offers access to the Internet and the Web from anywhere within the zone of coverage provided by an antenna. This is usually a region with a radius of one mile. Figure 3.9 displays a brief overview of how this technology works.

One example of a WISP is T-Mobile International, a company that provides access to wireless laptop users in more than 2,000 locations including airports, airline clubs, Starbucks coffeehouses, and Borders Books. A wireless service called T-Mobile HotSpot allows customers to access the Internet and T-Mobile's corporate intranet via a wireless network from convenient locations away from their home or office. T-Mobile International is the first mobile communications company to extend service on both sides of the Atlantic, offering customers the advantage of using their wireless services when traveling worldwide.[16]

FIGURE 3.9
Wireless Access Diagram



Online Service Provider

An ***online service provider (OSP***) offers an extensive array of unique services such as its own version of a Web browser. The term *online service provider* helps to distinguish ISPs that offer Internet access and their own online content, such as America Online (AOL), from ISPs that simply connect users directly with the Internet, such as EarthLink. Connecting to the Internet through an OSP is an alternative to connecting through one of the national ISPs, such as AT&T or MCI, or a regional or local ISP.

Application Service Provider

An ***application service provider (ASP)*** is a company that offers an organization access over the Internet to systems and related services that would otherwise have

FIGURE 3.10

Top ISPs, OSPs, and ASPs

Company	Description	Specialty
Appshop www.appshop.com	Application service provider	Oracle 11i e-business suite applications
BlueStar Solutions www.bluestarsolutions.com	Application service provider	Managing ERP solutions with a focus on SAP
Concur www.concur.com	Internet service provider	Integrates B2B procurement
Corio www.corio.com	Application service provider	Specializes in Oracle applications
Employease www.employease.com	Online service provider	Human resource applications services
Intacct www.intacct.com	Online service provider	Online general ledger service
LivePerson www.liveperson.com	Online service provider	Real-time chat provider
NetLedger www.netledger.com	Online service provider	Web based accounting platform
Outtask www.outtask.com	Application service provider	Integration of budgeting, customer service, sales management, and human resources applications
RightNow www.rightnow.com	Online service provider, Internet service provider	Suite of customer service applications
Salesforce.com www.salesforce.com	Online service provider	Suite of customer service applications
Salesnet www.salesnet.com	Online service provider	Suite of sales force automation products and services
Surebridge www.surebridge.com	Application service provider	High-tech manufacturing, distribution, health care applications
UpShot www.upshot.com	Online service provider	Sales force automation products and services
USi www.usinternetworking.com	Application service provider	Ariba, Siebel, Microsoft, and Oracle customer base

to be located in personal or organizational computers. Employing the services of an ASP is essentially outsourcing part of a company's business logic. Hiring an ASP to manage a company's software allows the company to hand over the operation, maintenance, and upgrade responsibilities for a system to the ASP.

One of the most important agreements between the customer and the ASP is the service level agreement. ***Service level agreements (SLAs)*** define the specific responsibilities of the service provider and set the customer expectations. SLAs include such items as availability, accessibility, performance, maintenance, backup/recovery, upgrades, equipment ownership, software ownership, security, and confidentiality. For example, an SLA might state that the ASP must have the software available and accessible from 7:00 a.m. to 7:00 p.m. Monday through Friday. It might also state that if the system is down for more than 60 minutes, there will be no charge for that day. Most industry analysts agree that the ASP market is growing rapidly. International Data Corporation (IDC) estimates the worldwide ASP market will grow from around $13 billion in 2005 to $23 billion by 2008.[17] Figure 3.10 displays the top ISPs, OSPs, and ASPs.

OPENING CASE QUESTIONS

Amazon.com—Not Your Average Bookstore

1. How has Amazon used technology to revamp the bookselling industry?
2. Is Amazon using disruptive or sustaining technology to run its business?
3. How is Amazon using intranets and extranets to run its business?
4. How could Amazon use kiosks to improve its business?

section 3.2 E-BUSINESS

LEARNING OUTCOMES

3.6. Compare the four types of e-business models.

3.7. Describe how an organization's marketing, sales, accounting, and customer service departments can use e-business to increase revenues or reduce costs.

3.8. Explain why an organization would use metrics to determine a Web site's success.

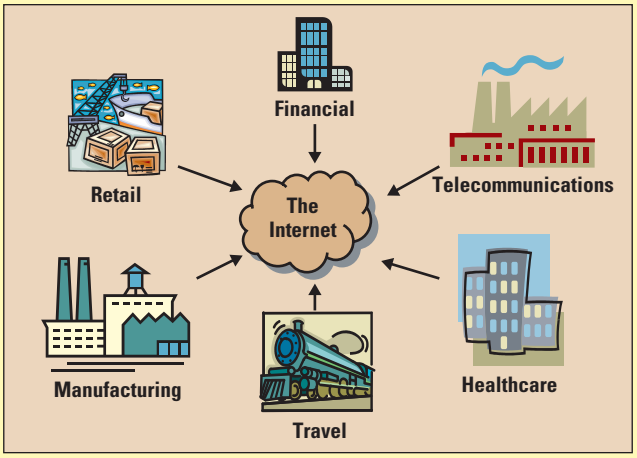
3.9. Describe e-business along with its benefits and challenges.

3.10. Define m-commerce and explain how an e-government could use it to increase its efficiency and effectiveness.

E-BUSINESS BASICS

In 2003, Tom Anderson and Chris DeWolf started MySpace, a social networking Web site that offers its members information about the independent music scene around the country representing both Internet culture and teenage culture. Musicians sign up for free MySpace home pages where they can post tour dates, songs, and lyrics. Fans sign up for their own Web pages to link to favorite bands and friends. As of February 2006, MySpace was the world's fifth most popular English-language Web site with over 60 million users.[18]

FIGURE 3.11
Overview of Several Industries Using E-Business



One of the biggest benefits of the Internet is its ability to allow organizations to perform business with anyone, anywhere, anytime. ***E-commerce*** is the buying and selling of goods and services over the Internet. E-commerce refers only to online transactions. ***E-business***, derived from the term e-commerce, is the conducting of business on the Internet, not only buying and selling, but also serving customers and collaborating with business partners. The primary difference between e-commerce and e-business is that e-business also refers to online exchanges of information. For example, a manufacturer allowing its suppliers to monitor production schedules or a financial institution allowing its customers to review their banking, credit card, and mortgage accounts.

In the past few years, e-business seems to have permeated every aspect of daily life. Both individuals and organizations have embraced Internet technologies to enhance productivity, maximize convenience, and improve communications globally. From banking to shopping to entertainment, the Internet has become integral to daily life. Figure 3.11 provides examples of a few of the industries using e-business.

E-BUSINESS MODELS

A ***e-business model*** is an approach to conducting electronic business on the Internet. E-business transactions take place between two major entities—businesses and consumers. All e-business activities happen within the framework of two types of business relationships: (1) the exchange of products and services between businesses (business-to-business, or B2B) and (2) the exchange of products and services with consumers (business-to-consumer, or B2C) (see Figure 3.12).

The primary difference between B2B and B2C are the customers; B2B customers are other businesses while B2C markets to consumers. Overall, B2B relations are more complex and have higher security needs; plus B2B is the dominant e-business force, representing 80 percent of all online business.[19] Figure 3.13 illustrates all the e-business models: Business-to-business, business-to-consumer, consumer-to-consumer, and consumer-to-business.

Business-to-Business (B2B)

Business-to-business (B2B) applies to businesses buying from and selling to each other over the Internet. Online access to data, including expected shipping date, delivery date, and shipping status, provided either by the seller or a third-party provider is widely supported by B2B models. Electronic marketplaces represent a new wave in B2B e-business models. ***Electronic marketplaces***, or ***e-marketplaces***, are interactive business communities providing a central market where multiple buyers and sellers can engage in e-business activities (see Figure 3.14). They present

FIGURE 3.12

Basic E-Business Models

E-Business Term	Definition
Business-to-business (B2B)	Applies to businesses buying from and selling to each other over the Internet.
Business-to-consumer (B2C)	Applies to any business that sells its products or services to consumers over the Internet.
Consumer-to-business (C2B)	Applies to any consumer that sells a product or service to a business over the Internet.
Consumer-to-consumer (C2C)	Applies to sites primarily offering goods and services to assist consumers interacting with each other over the Internet.

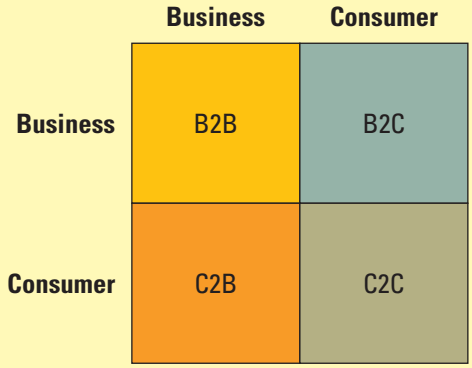
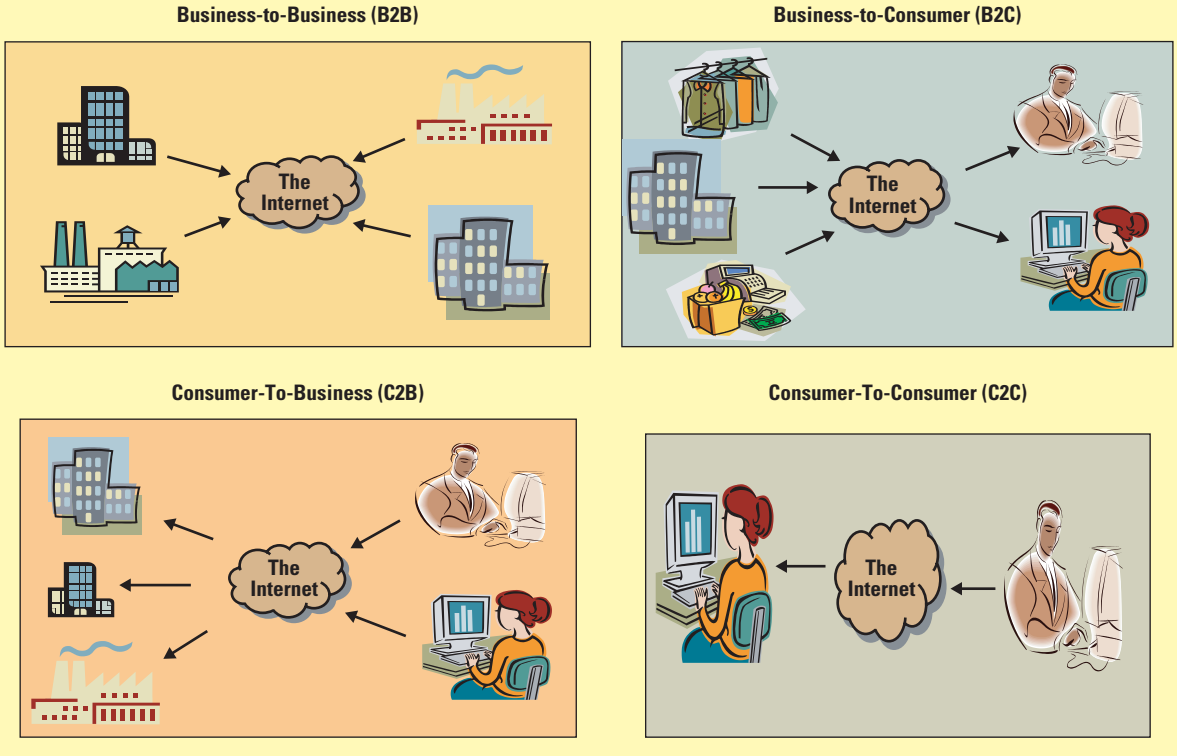


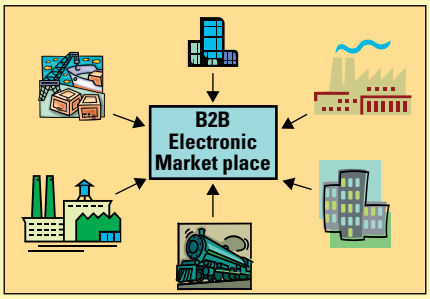
FIGURE 3.13

E-Business Models



structures for conducting commercial exchange, consolidating supply chains, and creating new sales channels. Their primary goal is to increase market efficiency by tightening and automating the relationship between buyers and sellers. Existing e-marketplaces allow access to various mechanisms in which to buy and sell almost anything, from services to direct materials.

FIGURE 3.14
Business-to-Business E-Marketplace Overview



Business-to-Consumer (B2C)

Business-to-consumer (B2C) applies to any business that sells its products or services to consumers over the Internet. Carfax has been in the vehicle history report business for 20 years with an original customer base of used-car dealers. "The Internet was just a new way for us to reach the consumer market," Carfax President Dick Raines said. Carfax spent $20 million on print and TV ads to attract customers to its Web site. Customers can purchase a Carfax report for $14.95 or six days of reports for $19.95. Carfax has now launched a partnership program for small auto dealers' Web sites and a cash-back program offering customers 20 percent of revenues received for their referrals. "We continue to look for more and more ways to add value," Raines said.[20] Common B2C e-business models include e-shops and e-malls.

E-Shop An ***e-shop***, sometimes referred to as an ***e-store*** or ***e-tailer***, is a version of a retail store where customers can shop at any hour of the day without leaving their home or office. These online stores sell and support a variety of products and services. The online businesses channeling their goods and services via the Internet only, such as Amazon.com, are called pure plays. The others are an extension of traditional retail outlets that sell online as well as through a traditional physical store. They are generally known as "bricks and clicks" or "click and mortar" organizations, such as the Gap (www.gap.com) and Best Buy (www.bestbuy.com) (see Figure 3.15).

E-Mall An ***e-mall*** consists of a number of e-shops; it serves as a gateway through which a visitor can access other e-shops. An e-mall may be generalized or specialized depending on the products offered by the e-shops it hosts. Revenues for e-mall operators include membership fees from participating e-shops, advertising, and possibly a fee on each transaction if the e-mall operator also processes payments. E-shops in e-malls benefit from brand reinforcement and increased traffic as visiting one shop on the e-mall often leads to browsing "neighboring" shops. An example of an e-mall is the Arizona e-mall www.1az1.com/shopping.

FIGURE 3.15
Types of Businesses

Business Types	
Brick-and-mortar business	A business that operates in a physical store without an Internet presence.
Pure-play (virtual) business	A business that operates on the Internet only without a physical store. Examples include Amazon.com and Expedia.com.
Click-and-mortar business	A business that operates in a physical store and on the Internet. Examples include REI and Barnes and Noble.

Online Auctions	
Electronic Auction (e-auction)	Sellers and buyers solicit consecutive bids from each other and prices are determined dynamically.
Forward Auction	An auction that sellers use as a selling channel to many buyers and the highest bid wins.
Reverse Auction	An auction that buyers use to purchase a product or service, selecting the seller with the lowest bid.

FIGURE 3.16
Online Auctions

C2C Communities
■ **Communities of interest**—People interact with each other on specific topics, such as golfing and stamp collecting.
■ **Communities of relations**—People come together to share certain life experiences, such as cancer patients, senior citizens, and car enthusiasts.
■ **Communities of fantasy—People participate in** imaginary environments, such as fantasy football teams and playing one-on-one with Michael Jordan.

FIGURE 3.17
C2C Communities

Consumer-to-Business (C2B)

Consumer-to-business (C2B) applies to any consumer that sells a product or service to a business over the Internet. One example of this e-business model is Priceline.com where bidders (or customers) set their prices for items such as airline tickets or hotel rooms, and a seller decides whether to supply them. The demand for C2B e-business will increase over the next few years due to customer's desire for greater convenience and lower prices.

Consumer-to-Consumer (C2C)

Consumer-to-consumer (C2C) applies to sites primarily offering goods and services to assist consumers interacting with each other over the Internet. eBay, the Internet's most successful C2C online auction Web site, links like-minded buyers and sellers for a small commission. Figure 3.16 displays the different types of online auctions.

C2C online communities, or virtual communities, interact via e-mail groups, Web-based discussion forums, or chat rooms. C2C business models are consumer-driven and opportunities are available to satisfy most consumers' needs, ranging from finding a mortgage to job hunting. They are global swap shops based on customer-centered communication. One C2C community, KazaA, allows users to download MP3 music files, enabling users to exchange files. Figure 3.17 highlights the different types of C2C communities that are thriving on the Internet.

ORGANIZATIONAL STRATEGIES FOR E-BUSINESS

To be successful in e-business, an organization must master the art of electronic relationships. Traditional means of customer acquisition such as advertising, promotions, and public relations are just as important with a Web site. Primary business areas taking advantage of e-business include:

- Marketing/sales
- Financial services

- Procurement
- Customer service
- Intermediaries

Marketing/Sales

Direct selling was the earliest type of e-business and has proven to be a stepping-stone to more complex commerce operations. Successes such as eBay, Barnes and Noble, Dell Inc., and Travelocity have sparked the growth of this segment, proving customer acceptance of e-business direct selling. Marketing and sales departments are initiating some of the most exciting e-business innovations (see Figure 3.18).

Cincinnati's WCPO-TV was a ratings blip in 2002 and is now the number three ABC affiliate in the nation. WCPO-TV credits its success largely to digital billboards that promote different programming depending on the time of day. The billboards are updated directly from a Web site. The station quickly noticed that when current events for the early-evening news were plugged during the afternoon, ratings spiked.

The digital billboards let several companies share one space and can change messages directly from the company's computer. In the morning, a department store can advertise a sale, and in the afternoon, a restaurant can advertise its specials. Eventually customers will be able to buy billboard sign time in hour or minute increments. Current costs to share a digital billboard are $40,000 a month, compared with $10,000 for one standard billboard.[21]

E-business provides an easy way to penetrate a new geographic territory and extend global reach. Large, small, or specialized businesses can use their online sales sites to sell on a worldwide basis with little extra cost. This ability to tap into expanded domestic or even international markets can be an immediate revenue boost to artists, jewelry makers, wineries, and the like, for initial orders and especially for reorders.

The Hotel Gatti (www.hotel-gatti.com) is a small hotel in northern Italy catering primarily to Italian travelers. By introducing its own Web site with English-language options, it significantly extended its geographic reach. Now, at very little cost, the hotel communicates with and takes reservations from potential customers in the United States and other English-speaking countries. The bottom line is that e-business now allows any company to market and sell products globally, regardless of its size.[22]

Financial Services

Financial services Web sites are enjoying rapid growth as they help consumers, businesses, and financial institutions distribute information with greater convenience and richness than is available in other channels. Consumers in e-business markets pay for products and services using a credit card or one of the methods outlined in Figure 3.19. Online business payments differ from online consumer payments because businesses tend to make large purchases (from thousands to millions of dollars) and typically do not pay with a credit card. Businesses make online payments using electronic data interchange (EDI) (see Figure 3.20). Transactions between businesses are complex and typically require a level of system integration between the businesses.

Many organizations are now turning to providers of electronic trading networks for enhanced Internet-based network and messaging services. Electronic trading networks are service providers that manage network services. They support business-to-business integration information exchanges, improved security, guaranteed

FIGURE 3.18

Generating Revenue on the Internet through Marketing and Sales Departments

Marketing and Sales E-Business Innovations
■ An ***online ad*** is a box running across a Web page that is often used to contain advertisements. The banner generally contains a link to the advertiser's Web site. Web-based advertising services can track the number of times users click the banner, generating statistics that enable advertisers to judge whether the advertising fees are worth paying. Banner ads are like living, breathing classified ads.
■ A ***pop-up ad*** is a small Web page containing an advertisement that appears on the Web page outside of the current Web site loaded in the Web browser. A ***pop-under ad*** is a form of a pop-up ad that users do not see until they close the current Web browser screen.
■ ***Associate programs (affiliate programs)*** allow businesses to generate commissions or royalties from an Internet site. For example, a business can sign up as an associate of a major commercial site such as Amazon. The business then sends potential buyers to the Amazon site using a code or banner ad. The business receives a commission when the referred customer makes a purchase on Amazon.
■ ***Viral marketing*** is a technique that induces Web sites or users to pass on a marketing message to other Web sites or users, creating exponential growth in the message's visibility and effect. One example of successful viral marketing is Hotmail, which promotes its service and its own advertisers' messages in every user's e-mail notes. Viral marketing encourages users of a product or service supplied by an e-business to encourage friends to join. Viral marketing is a word-of-mouth type advertising program.
■ ***Mass customization*** is the ability of an organization to give its customers the opportunity to tailor its products or services to the customers' specifications. For example, customers can order M&M's with customized sayings such as "Marry Me."
■ ***Personalization*** occurs when a Web site can know enough about a person's likes and dislikes that it can fashion offers that are more likely to appeal to that person. Personalization involves tailoring a presentation of an e-business Web site to individuals or groups of customers based on profile information, demographics, or prior transactions. Amazon uses personalization to create a unique portal for each of its customers.
■ A ***blog*** (the contraction of the phrase "Web log") is a Web site in which items are posted on a regular basis and displayed in reverse chronological order. Like other media, blogs often focus on a particular subject, such as food, politics, or local news. Some blogs function as online diaries. A typical blog combines text, images, and links to other blogs, Web pages, and other media related to its topic. Since its appearance in 1995, blogging has emerged as a popular means of communication, affecting public opinion and mass media around the world.
■ ***Real simple syndications (RSS)*** is a family of Web feed formats used for Web syndication of programs and content. RSS is used by (among other things) news Web sites, blogs, and podcasting, which allows consumers and journalists to have news constantly fed to them instead of searching for it. In addition to facilitating syndication, RSS allows a Web site's frequent readers to track updates on the site.
■ ***Podcasting*** is the distribution of audio or video files, such as radio programs or music videos, over the Internet to play on mobile devices and personal computers. Podcasting's essence is about creating content (audio or video) for an audience that wants to listen when they want, where they want, and how they want. Podcasters' Web sites also may offer direct download of their files, but the subscription feed of automatically delivered new content is what distinguishes a podcast from a simple download or real-time streaming. Usually, the podcast features one type of show with new episodes either sporadically or at planned intervals such as daily, weekly, etc.
■ ***Search engine optimization (SEO)*** is a set of methods aimed at improving the ranking of a Web site in search engine listings. Search engines display different kinds of listings in the search engine results pages (SERPs), including: pay-per-click advertisements, paid inclusion listings, and organic search results. SEO is primarily concerned with advancing the goals of Web sites by improving the number and position of organic search results for a wide variety of relevant keywords. SEO strategies can increase the number of visitors and the quality of visitors, where quality means visitors who complete the action the site intends (e.g., purchase, sign up, learn something). SEO, or "white hat SEO," is distinguished from "black hat SEO," or spamdexing, by methods and objectives. ***Spamdexing*** uses a variety of deceptive techniques in an attempt to manipulate search engine rankings, whereas legitimate SEO focuses on building better sites and using honest methods of promotion. What constitutes an honest, or ethical, method is an issue that has been the subject of numerous debates.

FIGURE 3.19
Types of Online Consumer Payments

Online Consumer Payments	
Financial cybermediary	A ***financial cybermediary*** is an Internet-based company that facilitates payments over the Internet. PayPal is the best-known example of a financial cybermediary.
Electronic check	An ***electronic check*** is a mechanism for sending a payment from a checking or savings account. There are many implementations of electronic checks, with the most prominent being online banking.
Electronic bill presentment and payment (EBPP)	An ***electronic bill presentment and payment (EBPP)*** is a system that sends bills over the Internet and provides an easy-to-use mechanism (such as clicking on a button) to pay the bill. EBPP systems are available through local banks or online services such as Checkfree and Quicken.
Digital wallet	A ***digital wallet*** is both software and information—the software provides security for the transaction and the information includes payment and delivery information (for example, the credit card number and expiration date).

service levels, and command center support (see Figure 3.21). As electronic trading networks expand their reach and the number of Internet businesses continues to grow, so will the need for managed trading services. Using these services allows organizations to reduce time to market and the overall development, deployment, and maintenance costs associated with their integration infrastructures.

Traders at Vanguard Petroleum Corporation spent most days on the phone, patrolling the market for pricing and volume information in order to strike the best possible deal. The process was slow and tied up traders on one negotiation at a time, making it inherently difficult to stay on top of quickly changing prices. One winter, for example, the weather got cold and stayed cold, causing propane prices to increase dramatically. The price was moving so fast that Vanguard was missing opportunities to buy, sell, and execute deals since it was able to complete only one deal at a time.

To bridge these shortcomings and speed the process, Vanguard became one of the first users of Chalkboard, a commodity markets electronic trading network that is now part of ChemConnect, a B2B e-marketplace. Vanguard uses Chalkboard to put bids and offers in front of hundreds of traders and complete various trades at multiple delivery points simultaneously. Vanguard now completes deals in real-time and is able to access a broader audience of buyers and sellers.[23]

Procurement

Web-based procurement of maintenance, repair, and operations (MRO) supplies is expected to reach more than $200 billion worldwide by the year 2009. ***Maintenance, repair, and operations (MRO) materials*** (also called ***indirect materials***)

FIGURE 3.20
Types of Online Business Payments

Online Business Payments
Electronic data interchange (EDI) is a standard format for exchanging business data. One way an organization can use EDI is through a value-added network. A ***value-added network (VAN)*** is a private network, provided by a third party, for exchanging information through a high-capacity connection. VANs support electronic catalogs (from which orders are placed), EDI-based transactions (the actual orders), security measures such as encryption, and EDI mailboxes.
Financial EDI (financial electronic data interchange) is a standard electronic process for B2B market purchase payments. National Cash Management System is an automated clearinghouse that supports the reconciliation of the payments.

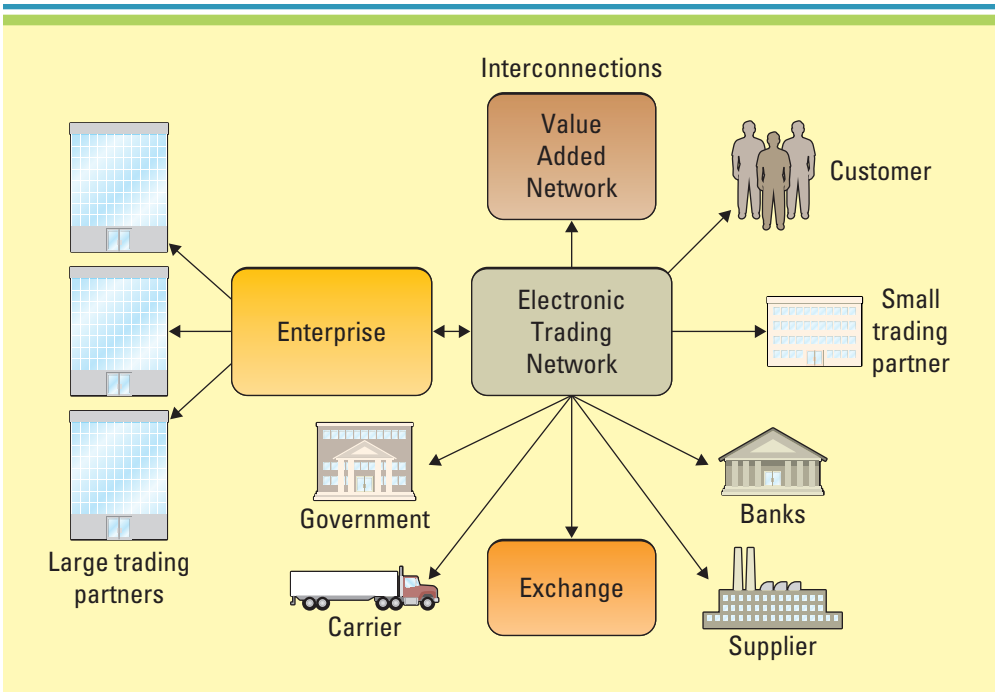


FIGURE 3.21
Diagram of an Electronic Trading Network

are materials necessary for running an organization but do not relate to the company's primary business activities. Typical MRO goods include office supplies (such as pens and paper), equipment, furniture, computers, and replacement parts. In the traditional approach to MRO purchasing, a purchasing manager would receive a paper-based request for materials. The purchasing manager would need to search a variety of paper catalogs to find the right product at the right price. Not surprisingly, the administrative cost for purchasing indirect supplies often exceeded the unit value of the product itself. According to the Organization for Economic Cooperation and Development (OECD), companies with more than $500 million in revenue spend an estimated $75 to $150 to process a single purchase order for MRO supplies.[24]

E-Procurement ***E-procurement*** is the B2B purchase and sale of supplies and services over the Internet. The goal of many e-procurement applications is to link organizations directly to preapproved suppliers' catalogs and to process the entire purchasing transaction online. Linking to electronic catalogs significantly reduces the need to check the timeliness and accuracy of supplier information.

An ***electronic catalog*** presents customers with information about goods and services offered for sale, bid, or auction on the Internet. Some electronic catalogs manage large numbers of individual items, and search capabilities help buyers navigate quickly to the items they want to purchase. Other electronic catalogs emphasize merchandise presentation and special offers, much as a retail store is laid out to encourage impulse or add-on buying. As with other aspects of e-business, it is important to match electronic catalog design and functionality to a company's business goals.

Customer Service

E-business enables customers to help themselves by combining the communications capability of a traditional customer response system with the content richness only the Web can provide—all available and operating 24x7. As a result, conducting business via the Web offers customers the convenience they want while freeing key support staff to tackle more complex problems. The Web also allows an organization to provide better customer service through e-mail, special messages, and private password-Web access to special areas for top customers.

FIGURE 3.22
Consumer Protection

Issues for Consumer Protection
■ Unsolicited goods and communication
■ Illegal or harmful goods, services, and content
■ Insufficient information about goods or their suppliers
■ Invasion of privacy
■ Cyberfraud

Vanguard manages $690 billion in assets and charges the lowest fees in the industry: 0.26 percent of assets versus an industry average of 0.81 percent. Vanguard keeps fees down by teaching its investors how to better use its Web site. For good reason: A Web log-on costs Vanguard mere pennies, while each call to a service rep is a $9 expense.[25]

Customer service is the business process where the most human contact occurs between a buyer and a seller. Not surprisingly, e-business strategists are finding that customer service via the Web is one of the most challenging and potentially lucrative areas of e-business. The primary issue facing customer service departments using e-business is consumer protection.

Consumer Protection An organization that wants to dominate by using superior customer service as a competitive advantage must not only consider how to service its customers, but also how to protect its customers. Organizations must recognize that many consumers are unfamiliar with their digital choices, and some e-businesses are well aware of these vulnerabilities. For example, 17-year-old Miami high school senior Francis Cornworth offered his "Young Man's Virginity" for sale on eBay. The offer attracted a $10 million phony bid. Diana Duyser of Hollywood, Florida, sold half of a grilled cheese sandwich that resembles the Virgin Mary to the owners of an online casino for $28,000 on eBay. Figure 3.22 highlights the different protection areas for consumers.[26]

Regardless of whether the customers are other businesses or end consumers, one of their greatest concerns is the security level of their financial transactions. This includes all aspects of electronic information, but focuses mainly on the information associated with payments (e.g., a credit card number) and the payments themselves, that is, the "electronic money." An organization must consider such issues as encryption, secure socket layers (SSL), and secure electronic transactions (SET), as explained in Figure 3.23.

FIGURE 3.23
E-Business Security

E-Business Security
Encryption scrambles information into an alternative form that requires a key or password to decrypt the information. Encryption is achieved by scrambling letters, replacing letters, replacing letters with numbers, and other ways.
A ***secure socket layer (SSL)*** (1) creates a secure and private connection between a client and server computer, (2) encrypts the information, and (3) sends the information over the Internet. SSL is identified by a Web site address that includes an "s" at the end—http**s.**
A ***secure electronic transaction (SET)*** is a transmission security method that ensures transactions are secure and legitimate. Similar to SSL, SET encrypts information before sending it over the Internet. However, SET also enables customer authentication for credit card transaction. SETs are endorsed by major e-commerce players including MasterCard, American Express, Visa, Netscape, and Microsoft.

Type of Intermediary	Description	Example
Internet service providers	Make money selling a service, not a product	Earthlink.com, Comcast.com, AOL.com
Portals	Central hubs for online content	Yahoo.com, MSN.com, Google.com
Content providers	Use the Internet to distribute copyrighted content	wsj.com, cnn.com, espn.com
Online brokers	Intermediaries between buyers and sellers of goods and services	charlesschwab.com, fidelity.com, datek.com
Market makers	Aggregate three services for market participants: a place, rules, and infrastructure	amazon.com, ebay.com, priceline.com
Online service providers	Extensive online array of services	xdrive.com, lawinfo.com
Intelligent agents	Software applications that follow instructions and learn independently	Sidestep.com, WebSeeker.com, iSpyNOW.com
Application service providers	Sell access to Internet-based software applications to other companies	ariba.com, commerceone.com, ibm.com
Infomedianies	Provide specialized information on behalf of producers of goods and services and their potential customers	autobytel.com, BizRate.com

FIGURE 3.24
Types of Intermediaries

Intermediaries

Intermediaries are agents, software, or businesses that bring buyers and sellers together that provide a trading infrastructure to enhance e-business. With the introduction of e-commerce there was much discussion about disintermediation of middle people/organizations; however, recent developments in e-business have seen more reintermediation. ***Reintermediation*** refers to using the Internet to reassemble buyers, sellers, and other partners in a traditional supply chain in new ways. Examples include New York-based e-Steel Corp. and Philadelphia-based PetroChemNet Inc. bringing together producers, traders, distributors, and buyers of steel and chemicals, respectively, in Web-based marketplaces. Figure 3.24 lists intermediaries and their functions.

MEASURING E-BUSINESS SUCCESS

Traffic on the Internet retail site for Wal-Mart has grown 66 percent in the last year. The site receives over 500,000 visitors daily (6.5 million per week), downloads 2 million Web pages daily, and averages 60,000 users logged on simultaneously. Wal-Mart's primary concern is maintaining optimal performance for online transactions. A disruption to the Web site directly affects the company's bottom line and customer loyalty. The company monitors and tracks the hardware, software, and network running the company's Web site to ensure high quality of service.[27]

The Yankee Group reports that 66 percent of companies determine Web site success solely by measuring the amount of traffic. Unfortunately, large amounts of Web site traffic does not necessarily indicate large sales. Many Web sites with lots of traffic have minimal sales. The best way to measure a Web site's success is to measure

FIGURE 3.25
Web Site Effectiveness Metrics

Effectiveness Web Site Metrics
■ ***Cookie***—a small file deposited on a hard drive by a Web site containing information about customers and their Web activities. Cookies allow Web sites to record the comings and goings of customers, usually without their knowledge or consent.
■ ***Click-through***—a count of the number of people who visit one site and click on an advertisement that takes them to the site of the advertiser. Tracking effectiveness based on click-throughs guarantees exposure to target ads; however, it does not guarantee that the visitor liked the ad, spent any substantial time viewing the ad, or was satisfied with the information contained in the ad.
■ A ***banner ad***—advertises the products and services of another business, usually another dot-com business. Advertisers can track how often customers click on banner ads resulting in a click-through to their Web site. Often the cost of the banner ad depends on the number of customers who click on the banner ad. Tracking the number of banner ad clicks is one way to understand the effectiveness of the ad on its target audience.

such things as the revenue generated by Web traffic, the number of new customers acquired by Web traffic, any reductions in customer service calls resulting from Web traffic.[28]

Web Site Metrics

Figure 3.25 displays a few metrics an organization can use to measure Web site effectiveness.

To help understand advertising effectiveness, interactivity measures are tracked and monitored. ***Interactivity*** measures the visitor interactions with the target ad. Such interaction measures include the duration of time the visitor spends viewing the ad, the number of pages viewed, and even the number of repeat visits to the target ad. Interactivity measures are a giant step forward for advertisers, since traditional advertising methods—newspapers, magazines, radio, and television—provide few ways to track effectiveness metrics. Interactivity metrics measure actual consumer activities, something that was impossible to do in the past, and provide advertisers with tremendous amounts of business intelligence.

FIGURE 3.26
Clickstream Data Metrics

Clickstream Data Metrics
■ The number of page views (i.e., the number of times a particular page has been presented to a visitor).
■ The pattern of Web sites visited, including most frequent exit page and most frequent prior Web site.
■ Length of stay on the Web site.
■ Dates and times of visits.
■ Number of registrations filled out per 100 visitors.
■ Number of abandoned registrations.
■ Demographics of registered visitors.
■ Number of customers with shopping carts.
■ Number of abandoned shopping carts.

The ultimate outcome of any advertisement is a purchase. Tying purchase amounts to Web site visits makes it easy to communicate the business value of the Web site. Organizations use metrics to tie revenue amounts and new customer creation numbers directly back to the Web sites or banner ads. Organization can observe through ***clickstream data*** the exact pattern of a consumer's navigation through a site. Clickstream data can reveal a number of basic data points on how consumers interact with Web sites. Figure 3.26 displays different types of clickstream metrics.

Marc Barach is the co-inventor and chief marketing officer of Ingenio, a start-up company that specializes in connecting people in real-time. When the Internet first emerged, banner ads were the prevalent marketing tools. Next came pay-per-click where the company pays the search engine each time its Web site is accessed from a search. Today 35 percent of online spending occurs through pay-per-clicks. Unfortunately, pay-per-clicks are not suitable for all businesses. Roofers, plumbers, auto repair people, and cosmetic surgeons rarely have Web sites and do not generate business via pay-per-clicks. Barach believes that the next line of Internet advertising will be pay-per-call, and Ingenio has invested five years and $50 million in building the platform to run the business. Here is how pay-per-call works:

- The user types a keyword into a search engine.
- The search engine passes the keyword to Ingenio.
- Ingenio determines the category and sends back the appropriate merchant's unique, traceable 800 telephone number.
- The 800 number routes through Ingenio's switches, and Ingenio charges the merchant when a customer calls.

A Jupiter Research study discovered that businesses were willing to pay between $2 and $35 for each call lead.[29]

Figure 3.27 provides definitions of common metrics based on clickstream data. To interpret such data properly, managers try to benchmark against other companies. For instance, consumers seem to visit their preferred Web sites regularly, even checking back to the Web site multiple times during a given session. Consumers tend to become loyal to a small number of Web sites, and they tend to revisit those Web sites a number of times during a particular session.

E-BUSINESS BENEFITS AND CHALLENGES

According to an NUA Internet Survey, the Internet links more than 1 billion people worldwide. Experts predict that global Internet usage will nearly triple between 2006 and 2010, making e-business a more significant factor in the global economy. As e-business improves, organizations will experience benefits and challenges alike. Figure 3.28 details e-business benefits for an organization.

The Internet is forcing organizations to refocus their information systems from the inside out. A growing number of companies are already using the Internet to streamline their business processes, procure materials, sell products, automate customer service, and create new revenue streams. Although the benefits of e-business systems are enticing, developing, deploying, and managing these systems is not always easy. Unfortunately, e-business is not something a business can just go out and buy. Figure 3.29 details the challenges facing e-business.

A key element of e-marketplaces is their ability to provide not only transaction capabilities but also dynamic, relevant content to trading partners. The original e-business Web sites provided shopping cart capabilities built around product catalogs. As a result of the complex e-marketplace that must support existing business processes and systems, content is becoming even more critical for e-marketplaces. Buyers need good content description to make informed purchases, and sellers use content to properly market and differentiate themselves from the competition. Content and product description establish the common understanding between both parties to the transaction. As a result, the accessibility, usability,

FIGURE 3.27

Definitions of Web Site Metrics

Visitor	Visitor Metrics
Unidentified visitor	A visitor is an individual who visits a Web site. An "unidentified visitor" means that no information about that visitor is available.
Unique visitor	A unique visitor is one who can be recognized and counted only once within a given period of time. An accurate count of unique visitors is not possible without some form of identification, registration, or authentication.
Session visitor	A session ID is available (e.g., cookie) or inferred by incoming address plus browser type, which allows a visitor's responses to be tracked within a given visit to a Web site.
Tracked visitor	An ID (e.g., cookie) is available which allows a user to be tracked across multiple visits to a Web site. No information, other than a unique identifier, is available for a tracked visitor.
Identified visitor	An ID is available (e.g., cookie or voluntary registration), which allows a user to be tracked across multiple visits to a Web site. Other information (name, demographics, possibly supplied voluntarily by the visitor) can be linked to this ID.
Exposure	**Exposure Metrics**
Page exposures (page-views)	The number of times a particular Web page has been viewed by visitors in a given time period, without regard to duplication.
Site exposures	The number of visitor sessions at a Web site in a given time period, without regard to visitor duplication.
Visit	**Visit Metrics**
Stickiness (visit duration time)	The length of time a visitor spends on a Web site. Can be reported as an average in a given time period, without regard to visitor duplication.
Raw visit depth (total Web pages exposure per session)	The total number of pages a visitor is exposed to during a single visit to a Web site. Can be reported as an average or distribution in a given time period, without regard to visitor duplication.
Visit depth (total unique Web pages exposure per session)	The total number of unique pages a visitor is exposed to during a single visit to a Web site. Can be reported as an average or distribution in a given time period, without regard to visitor duplication.
Hit	**Hit Metrics**
Hits	When visitors reach a Web site, their computer sends a request to the site's computer server to begin displaying pages. Each element of a requested page (including graphics, text, interactive items) is recorded by the Web site's server log file as a "hit."
Qualified hits	Exclude less important information recorded in a log file (such as error messages, etc.).

accuracy, and richness of that content directly affect the transaction. Figure 3.30 displays the different benefits and challenges of various e-marketplace revenue models.

NEW TRENDS IN E-BUSINESS: E-GOVERNMENT AND M-COMMERCE

Recent business models that have arisen to enable organizations to take advantage of the Internet and create value are within e-government. ***E-government*** involves the use of strategies and technologies to transform government(s) by improving the

E-Business Benefits	
Highly Accessible	Businesses can operate 24 hours a day, 7 days a week, 365 days a year.
Increased Customer Loyalty	Additional channels to contact, respond to, and access customers helps contribute to customer loyalty.
Improved Information Content	In the past, customers had to order catalogs or travel to a physical facility before they could compare price and product attributes. Electronic catalogs and Web pages present customers with updated information in real-time about goods, services, and prices.
Increased Convenience	E-business automates and improves many of the activities that make up a buying experience.
Increased Global Reach	Business, both small and large, can reach new markets.
Decreased Cost	The cost of conducting business on the Internet is substantially smaller than traditional forms of business communication.

FIGURE 3.28
E-Business Benefits

FIGURE 3.29
E-Business Challenges

E-Business Challenges	
Protecting Consumers	Consumers must be protected against unsolicited goods and communication, illegal or harmful goods, insufficient information about goods or their suppliers, invasion of privacy, and cyberfraud.
Leveraging Existing Systems	Most companies already use information technology to conduct business in non-Internet environments, such as marketing, order management, billing, inventory, distribution, and customer service. The Internet represents an alternative and complementary way to do business, but it is imperative that e-business systems integrate existing systems in a manner that avoids duplicating functionality and maintains usability, performance, and reliability.
Increasing Liability	E-business exposes suppliers to unknown liabilities because Internet commerce law is vaguely defined and differs from country to country. The Internet and its use in e-business have raised many ethical, social, and political issues, such as identity theft and information manipulation.
Providing Security	The Internet provides universal access, but companies must protect their assets against accidental or malicious misuse. System security, however, must not create prohibitive complexity or reduce flexibility. Customer information also needs to be protected from internal and external misuse. Privacy systems should safeguard the personal information critical to building sites that satisfy customer and business needs. A serious deficiency arises from the use of the Internet as a marketing means. Sixty percent of Internet users do not trust the Internet as a payment channel. Making purchases via the Internet is considered unsafe by many. This issue affects both the business and the consumer. However, with encryption and the development of secure Web sites, security is becoming less of a constraint for e-businesses.
Adhering to Taxation Rules	The Internet is not yet subject to the same level of taxation as traditional businesses. While taxation should not discourage consumers from using electronic purchasing channels, it should not favor Internet purchases over store purchases either. Instead, a tax policy should provide a level playing field for traditional retail businesses, mail-order companies, and Internet-based merchants. The Internet marketplace is rapidly expanding, yet it remains mostly free from traditional forms of taxation. In one recent study, uncollected state and local sales taxes from e-business are projected to exceed $60 billion in 2008.

FIGURE 3.30

The Benefits and Challenges of Various E-Marketplace Revenue Models

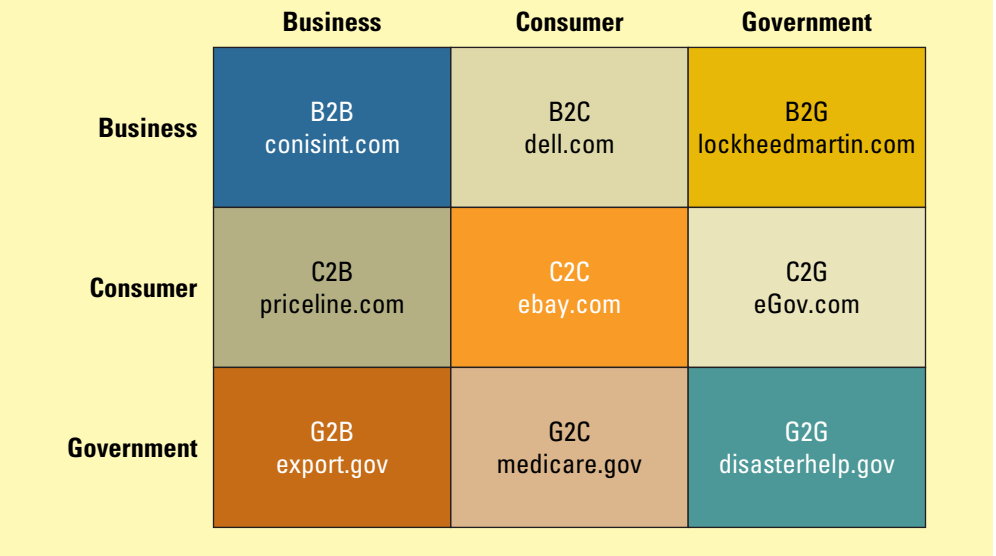
Revenue Models	Advantages	Limitation
Transaction fees	■ Can be directly tied to savings (both process and price savings) ■ Important revenue source when high level of liquidity (transaction volume) is reached	■ If process savings are not completely visible, use of the system is discouraged (incentive to move transactions offline) ■ Transaction fees likely to decrease with time
License fees	■ Creates incentives to do many transactions ■ Customization and back-end integration leads to lock-in of participants	■ Up front fee is a barrier to entry for participants ■ Price differentiation is complicated
Subscription fees	■ Creates incentives to do transactions ■ Price can be differentiated ■ Possibility to build additional revenue from new user groups	■ Fixed fee is a barrier to entry for participants
Fees for value-added services	■ Service offering can be differentiated ■ Price can be differentiated ■ Possibility to build additional revenue from established and new user groups (third parties)	■ Cumbersome process for customers to continually evaluate new services
Advertising fees	■ Well-targeted advertisements can be perceived as value-added content by trading participants ■ Easy to implement	■ Limited revenue potential ■ Overdone or poorly targeted advertisements can be disturbing elements on the Web site

delivery of services and enhancing the quality of interaction between the citizen-consumer within all branches of government (refer to Figure 3.31).

One example of an e-government portal, FirstGov.gov, the official U.S. gateway to all government information, is the catalyst for a growing electronic government. Its powerful search engine and ever-growing collection of topical and

FIGURE 3.31

Extended E-Business Models



E-Government Models	
Consumer-to-government (C2G)	C2G will mainly constitute the areas where a consumer (or citizen) interacts with the government. It will include areas like elections, when citizens vote for government officials; census, where the consumer provides demographic information to the government; taxation, where the consumer is paying taxes to the government.
Government-to-business (G2B)	This model includes all government interaction with business enterprises whether it is procurement of goods and services from suppliers or information regarding legal and business issues that is transmitted electronically.
Government-to-consumer (G2C)	Governments around the world are now dealing with consumers (or citizens) electronically, providing them with updated information. Governments are also processing applications for visas, renewal of passports and driver's licenses, advertising of tender notices, and other services online.
Government-to-government (G2G)	Governments around the world are now dealing with other governments electronically. Still at an inception stage, this e-business model will enhance international trade and information retrieval, for example, on criminal records of new migrants. At the state level, information exchange and processing of transactions online will enable enhanced efficiencies.

FIGURE 3.32
E-Government Models

customer-focused links connect users to millions of Web pages, from the federal government, to local and tribal governments, to foreign nations around the world. Figure 3.32 highlights specific e-government models.

M-Commerce

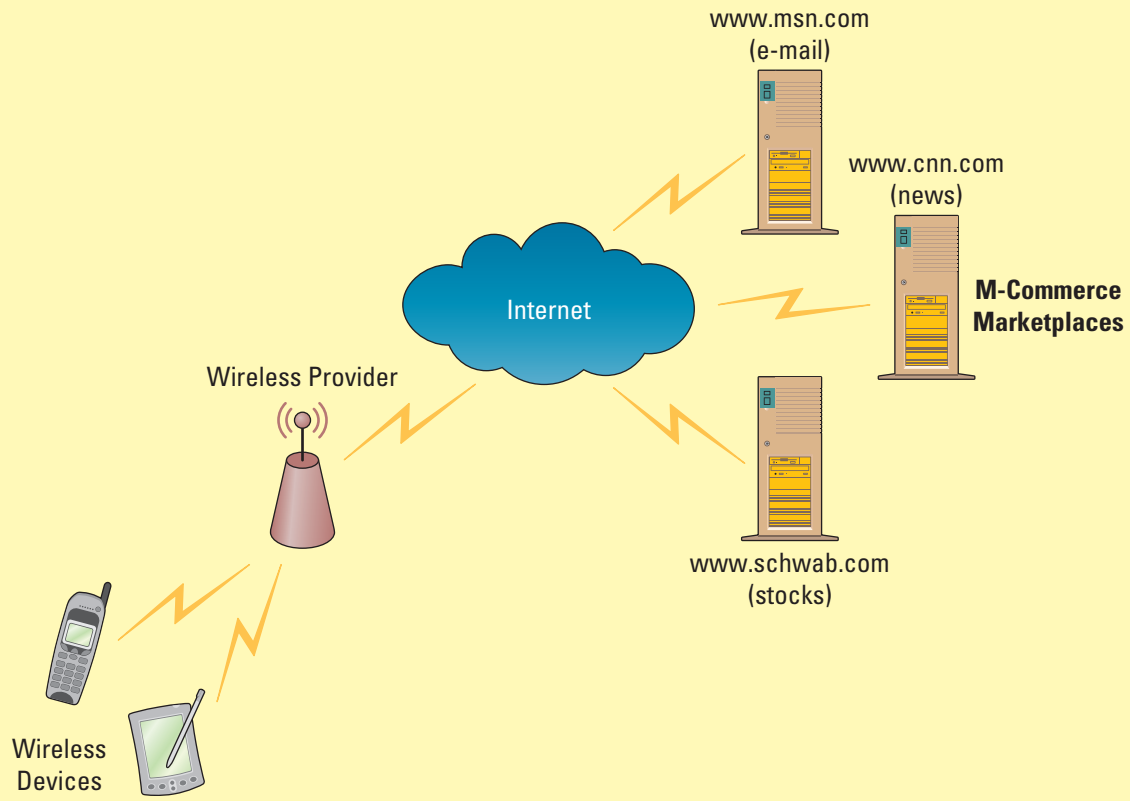
In a few years, Internet-enabled mobile devices will outnumber PCs. ***Mobile commerce***, or ***m-commerce***, is the ability to purchase goods and services through a wireless Internet-enabled device. The emerging technology behind m-commerce is a mobile device equipped with a Web-ready micro-browser. To take advantage of the m-commerce market potential, handset manufacturers Nokia, Ericsson, Motorola, and Qualcomm are working with telecommunication carriers AT&T Wireless and Sprint to develop smartphones. Using new forms of technology, smartphones offer fax, e-mail, and phone capabilities all in one, paving the way for m-commerce to be accepted by an increasingly mobile workforce. Figure 3.33 gives a visual overview of m-commerce.

Amazon.com has collaborated with Nokia to pioneer a new territory. With the launch of its Amazon.com Anywhere service, it has become one of the first major online retailers to recognize and do something about the potential of Internet-enabled wireless devices. As content delivery over wireless devices becomes faster, more secure, and scalable, m-commerce will surpass landline e-business (traditional telephony) as the method of choice for digital commerce transactions. According to the research firm Strategy Analytics, the global m-commerce market was expected to be worth more than $200 billion by 2005, with some 350 million customers generating almost 14 billion transactions annually. Additionally, information activities like e-mail, news, and stock quotes will progress to personalized transactions, "one-click" travel reservations, online auctions, and video-conferencing.[30]

Organizations face changes more extensive and far reaching in their implications than anything since the modern industrial revolution occurred in the early

FIGURE 3.33

M-Commerce Technology Overview



1900s. Technology is a primary force driving these changes. Organizations that want to survive must recognize the immense power of technology, carry out required organizational changes in the face of it, and learn to operate in an entirely different way.

OPENING CASE QUESTIONS

Amazon.com—Not Your Average Bookstore

5. What is Amazon's e-business model?
6. How can Amazon use m-commerce to influence its business?
7. Which metrics could Amazon use to assess the efficiency and effectiveness of Amazon's Web site?
8. What are some of the business challenges facing Amazon?

KEY TERMS

Application service provider (ASP) 74
Associate program (affiliate program) 81
Banner ad 86
Blog 81
Brick-and-mortar business 78
Business-to-business (B2B) 76
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Online ad (banner ad) 86
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Personalization 81
Podcasting 81
Pop-under ad 81
Pop-up ad 81
Portal 71
Protocol 69
Pure-play (virtual) business 78
Real simple syndication (RSS) 81
Reintermediation 85
Search engine optimization (SEO) 81
Secure electronic transaction (SET) 84
Secure socket layer (SSL) 84
Service level agreement (SLA) 75
Spamdexing 81
Sustaining technology 66
Value-added network (VAN) 82
Viral marketing 81
Wireless Internet service provider (WISP) 73
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eBay—The Ultimate E-Business

Pierre Omidyar was just 28 when he sat down over a long holiday weekend to write the original computer code for what eventually became an Internet super brand—the auction site eBay. Omidyar viewed auctions as a fair mechanism for Internet commerce where sellers could set their minimum prices, and buyers could then determine an item's market value by bidding up to what they were willingly to pay. A novel feedback system could allow buyers and sellers to rate each other, helping minimize fraud by enabling the community to police itself. "I really wanted to give the individual the power to be a producer as well. It was letting the users take responsibility for building the community," Omidyar would later explain.

The site launched on Labor Day, September 4, 1995, under the title of Auction Web, soon to be renamed after the site's domain name—ebay.com (a shortening of Echo Bay, Omidyar's consulting firm). The service was free at first, but started charging to cover Internet service provider costs.

A National Marketplace

Omidyar's auction Web site, eBay.com, took off. It provided something novel that its users craved: an efficient national marketplace with a strong community built on fairness and trust. A photography student looking for a used camera could choose from models across the nation and trust the timely delivery of the product. The owner of a vintage clothing store could sell to collectors nationwide. The community would expose a deceptive or fraudulent user and ban them from the marketplace.

Entrepreneurs in record numbers began setting up shop on eBay. According to a new survey conducted for eBay by ACNielsen International Research, in 2005 more than 724,000 people supported themselves by selling items on eBay, up from 75,000 in 2002. In addition to these professional eBay sellers, another 1.5 million individuals supplement their income by selling on eBay. In the first six months of 2005, Americans sold merchandise worth about $10.6 billion through eBay.

The stock market value of Omidyar's innovative company grew to $2 billion in just three years, and his site's staying power as an economic engine was evident. Jeffrey Skoll, a Stanford MBA, joined the company in 1996 after the site was already profitable. In March 1998, Meg Whitman took over as president and CEO. In September 1998, eBay launched a successful public offering, making both Omidyar and Skoll billionaires—three years after Omidyar created eBay. As of 2005, Omidyar's 214 million eBay shares were worth about $8 billion.

Collaborating with eBay

This e-business is collaborating with marketplace, payment, and communication companies that add value for its customers.

Marketplace—The U.S. Postal Service

People who sell items on eBay all have one thing in common: They need to ship their goods to their customers. To support this growing economic force, eBay and the U.S. Postal Service created an innovative economic and educational opportunity.

The Postal Service's bread and butter—first-class mail—is beset by rising costs and falling use. E-mail and faxes have reduced the amount of mail sent each day, but the Postal Service still bears the cost of delivering to every business and home, six days a week. Package shipping, however, remains a profitable and booming business, as evidenced by the number and earnings of private shippers in the market.

The Postal Service offers free boxes and heavy-duty envelopes for shippers using overnight or priority mail. To make it easier for those in the vanguard of the new, digital economy, the Postal Service will pick up shipments from the sender, and its Web site sells mailing labels with postage included that can be printed out from a home computer. Over 20 million shipping labels with postage were printed via the eBay/Postal Service link in 2005. Customers can also link to the United Parcel Service site, but eBay does not have a formal relationship with Federal Express.

Payment—PayPal

Founded in 1998, PayPal, an eBay company, enables any individual or business with an e-mail address to securely, easily, and quickly send and receive payments online. PayPal's service builds on the existing financial infrastructure of bank accounts and credit cards and utilizes the world's most advanced proprietary fraud prevention systems to create a safe, global, real-time payment solution.

PayPal has quickly become a global leader in online payment solutions with 96 million account members worldwide. Buyers and sellers on eBay, online retailers, online businesses, as well as traditional off-line businesses are transacting with PayPal, available in 55 countries.

Communication—Skype

Skype, a global Internet communications company, allows people everywhere to make free, unlimited, superior quality voice calls via its innovative peer-to-peer software. Since its launch in August 2003, Skype has been downloaded more than 163 million times in 225 countries and territories. Fifty-four million people are registered to use Skype's free services, with over 3 million simultaneous users on the network at any one time. Skype adds about 150,000 users a day.

In September 2005, eBay acquired Skype for approximately $2.6 billion, anticipating that Skype will streamline and improve communications between buyers and sellers as it is integrated into the eBay marketplace. Buyers will gain an easy way to talk to sellers quickly and get the information they need, and sellers can more easily build relationships. The auction company hopes the acquisition will strengthen its global marketplace and payments platform, while opening several new lines of business and creating significant new opportunities for the company.

Unforeseen Dangers of Collaboration

"Communications is at the heart of e-commerce and community," said Meg Whitman. "By combining the two leading e-commerce franchises, eBay and PayPal, with the leader in Internet voice communications, Skype, we will create an extraordinarily powerful environment for business on the Net."

In October 2005, one month after eBay's acquisition of Skype, a press release discussed two critical flaws in Skype's software, one of which could allow malicious hackers to take control of compromised systems and another that could allow attackers to crash the client software. While fixes for the issues were being addressed, businesses asked their users to refrain from using voice services based on proprietary protocols like Skype while on corporate networks because of network security issues. Perhaps Skype might not be the collaborative tool of choice for eBay. [31]

Questions

1. eBay is one of the only major Internet "pure plays" to consistently make a profit from its inception. What is eBay's e-business model and why has it been so successful?
2. Other major Web sites, like Amazon.com and Yahoo!, have entered the e-marketplace with far less success than eBay. How has eBay been able to maintain its dominant position?
3. eBay has long been an e-marketplace for used goods and collectibles. Today, it is increasingly a place where major businesses come to auction their wares. Why would a brand name vendor set up shop on eBay?

4. What are the three different types of online auctions and which one is eBay using?
5. What are the different forms of online payment methods for consumers and business? How might eBay's customer benefit from the different payment methods?
6. Which metrics would you use if you were hired to assess the efficiency and effectiveness of eBay's Web site?

CLOSING CASE TWO

Direct Groceries

In July 2002, FreshDirect made its first delivery. The online grocer, which began in the New York metropolitan area and has expanded slowly and cautiously from Brooklyn to Queens to Manhattan, now has annual revenues of $150 million. The company decided to revamp its IT infrastructure focusing on availability and scalability to support a new, more aggressive growth strategy. In early 2004, FreshDirect hired a new CTO, Myles Trachtenberg, to help expand its business. Trachtenberg led the company through its IT infrastructure revamp, which was completed in September 2004.

The company's growth strategy focuses on using a variety of industry best practices to succeed. "I like to think of us as three types of businesses pulled together," Trachtenberg said. FreshDirect has sought to emulate the e-business success of Amazon.com, the just-in-time manufacturing capabilities of Dell, and the distribution expertise of FedEx. FreshDirect generates 99 percent of its business through its Web site. To differentiate itself in the marketplace, the company concentrates on preparation and delivery of fresh foods, which account for about 70 percent of sales.

When Trachtenberg joined FreshDirect, its infrastructure was running on Sun Microsystems servers. Trachtenberg wanted to update the systems to create an infrastructure that would ensure high availability to meet customer demands for a quick and easy online experience, as well as the scalability to allow FreshDirect to continue to expand. Trachtenberg also wanted to move to an Intel-based system.

Keeping FreshDirect's Web site operational is essential to the company's growth strategy. The Web site must handle over 4,000 orders a day, each with an average of 30 items, which requires the movement of about 1 million items in the warehouse each week.

Before the new IT infrastructure revamp, the average response time on the FreshDirect Web site was about eight seconds. Today, the response time is two seconds during peak demand and one second during low demand periods.

Within its data center, FreshDirect runs SAP enterprise resource planning software and database. Inside the warehouse, each order is disassembled for sorting and packing. The order is first run through a logistics application by RouteSmart Technologies Inc., which uses algorithms to divide orders based on destination, delivery schedules, and capacity.

How rapidly FreshDirect will expand its territory has yet to be determined. "There's still a lot of growth left in the areas we serve now," Trachtenberg said. "In New York City alone, I'd say there's definitely potential for between $300 million and $500 million a year."[32]

Questions

1. What type of technology is FreshDirect using—disruptive or sustaining?
2. How could FreshDirect use a kiosk to improve its business?
3. How could FreshDirect use m-commerce to improve its business?
4. What are the three different types of service providers and which one would FreshDirect use to run its business?
5. What types of information would be contained in FreshDirect's intranet?
6. What types of information would be contained in FreshDirect's extranet?
7. Which metrics would you use if you were hired to assess the efficiency and effectiveness of FreshDirect's Web site?

CLOSING CASE THREE

How Do You Value Friendster?

Jonathan Abrams is keeping quiet about how he is going to generate revenue from his Web site, Friendster, which specializes in social networking. Abrams is a 33-year-old Canadian software developer whose experiences include being laid off by Netscape and then moving from one start-up to another. In 2002, Abrams was unemployed, not doing well financially, and certainly not looking to start another business when he developed the idea for Friendster. He quickly coded a working prototype and watched in amazement as his Web site took off.

The buzz around social networking start-ups has been on the rise. A number of high-end venture capital firms, including Sequoia and Mayfield, have invested more than $40 million into social networking start-ups such as LinkedIn, Spoke, and Tribe Networks. Friendster received over $13 million in venture capital from Kleiner, Perkins, Caufield, Byers, and Benchmark Capital, which reportedly valued the company at $53 million—a startling figure for a company that had yet to generate even a single dime in revenue.

A year after making its public debut, Friendster was one of the largest social networking Web sites, attracting over 5 million users and receiving more than 50,000 page views per day. The question is how do efficiency metrics, such as Web traffic and page views, turn into cash flow? Everyone is wondering how Friendster is going to begin generating revenue.

The majority of Abrams's competitors make their money by extracting fees from their subscribers. Friendster is going to continue to let its subscribers meet for free but plans to charge them for premium services such as the ability to customize their profile page. The company also has plans to extend beyond social networking to an array of value-added services such as friend-based job referrals and classmate searches. Abrams is also looking into using his high-traffic Web site to tap into the growing Internet advertising market.

Abrams does not appear concerned about generating revenue or about potential competition. "Match.com has been around eight years, has 12 million users, and has spent many millions of dollars on advertising to get them," he said. "We're a year old, we've spent zero dollars on advertising, and in a year or less, we'll be bigger than them—it's a given."

The future of Friendster is uncertain. Google offered to buy Friendster for $30 million even though there are signs, both statistical and anecdotal, that Friendster's popularity may have peaked. [33]

Questions

1. How could you use e-business metrics to place a value on Friendster?
2. Why would a venture capital company value Friendster at $53 million when the company has yet to generate any revenue?
3. Why would Google be interested in buying Friendster for $30 million when the company has yet to generate any revenue?
4. Identify Friendster's e-business model and explain how the company can generate revenue.
5. Explain the e-business benefits and challenges facing Friendster.

1. Leveraging the competitive value of the Internet

Physical inventories have always been a major cost component of business. Linking to suppliers in real time dramatically enhances the classic goal of inventory "turn." The Internet provides a multitude of opportunities for radically reducing the costs of designing, manufacturing, and selling goods and services. E-mango.com, a fruit e-marketplace, must take advantage of these opportunities or find itself at a significant competitive disadvantage. Identify the disadvantages that confront E-mango.com if it does not leverage the competitive value of the Internet.

2. Implementing an e-business model

The Genius is a revolutionary mountain bike with full-suspension and shock-adjustable forks that is being marketed via the Internet. The Genius needs an e-business solution that will easily enable internal staff to deliver fresh and relevant product information throughout its Web site. To support its large audience, the company also needs the ability to present information in multiple languages and serve over 1 million page views per month to visitors in North America and Europe. Explain what e-business model you would use to market The Genius on the Internet.

3. Assessing Internet capabilities

Hoover's Rentals is a small privately owned business that rents sports equipment in Denver, Colorado. The company specializes in winter rentals including ski equipment, snowboarding equipment, and snowmobile equipment. Hoover's has been in business for 20 years and, for the first time, it is experiencing a decline in rentals. Brian Hoover, the company's owner, is puzzled by the recent decreases. The snowfall for the last two years has been outstanding, and the ski resorts have opened earlier and closed later than most previous years. Reports say tourism in the Colorado area is up, and the invention of loyalty programs has significantly increased the number of local skiers. Overall, business should be booming. The only reason for the decrease in sales might be the fact that big retailers such as Wal-Mart and Gart Sports are now renting winter sports equipment. Brian would like your team's help in determining how he can use the Internet to help his company increase sales and decrease costs to compete with these big retailers.

4. Online auction sites

You are working for a new Internet start-up company, eMart.com, an online marketplace for the sale of goods and services. The company offers a wide variety of features and services that enable online members to buy and sell their goods and services quickly and conveniently. The company's mission is to provide a global trading platform where anyone can trade practically anything. Suggest some ways that eMart.com can extend its market reach beyond that of its competitor, eBay.com.

5. Everybody needs an Internet strategy

An Internet strategy addresses the reasons businesses want to "go online." "Going online" because it seems like the right thing to do now or because everyone else is doing it is not a good enough reason. A business must decide how it will best utilize the Internet for its particular needs. It must plan for where it wants to go and how best the Internet can help shape that vision. Before developing a strategy a business should spend time on the Internet, see what similar businesses have grown, and what is most feasible, given a particular set of resources. Think of a new online business opportunity and answer the following questions:

1. Why do you want to put your business online?
2. What benefits will going online bring?
3. What effects will being connected to the Internet have on your staff, suppliers, and customers?

6. Analyzing Web Sites

Stars Inc. is a large clothing corporation that specializes in reselling clothes worn by celebrities. The company's four Web sites generate 75 percent of its sales. The remaining 25 percent of sales occur directly through the company's warehouse. You have recently been hired as the director of sales. The only information you can find on the success of the four Web sites follows:

Web Site	Classic	Contemporary	New Age	Traditional
Traffic analysis	5,000 hits/day	200 hits/day	10,000 hits/day	1,000 hits/day
Stickiness (average)	20 min.	1 hr.	20 min.	50 min.
Number of abandoned shopping carts	400/day	0/day	5,000/day	200/day
Number of unique visitors	2,000/day	100/day	8,000/day	200/day
Number of identified visitors	3,000/day	100/day	2,000/day	800/day
Average revenue per sale	$1,000	$1,000	$50	$1,300

You decide that maintaining four separate Web sites is expensive and adds little business value. You want to propose consolidating to one Web site. Create a report detailing the business value gained by consolidating to a single Web site, along with your recommendation for consolidation. Be sure to include your Web site profitability analysis.