CHAPTER 15

GLOBAL MARKETSING AND THE DIGITAL REVOLUTION

SUMMARY

A. The **digital revolution** has created a global electronic marketplace. The revolution has gained momentum over the course of 75-plus years, during which time technological breakthroughs included the digital mainframe computer; the **transistor**; the **integrated circuit;** the **personal computer**; the **spreadsheet**, the PC **operating system**; and the **Internet**, which originated as an initiative of the Defense Advanced Research Projects Agency **(DARPA).** Three key innovations by Tim Berners-Lee, **URLs**, **http**, and **html**, led to the creation in the early 1990s of the **World Wide Web**.

B. The digital revolution has resulted in a process known as **convergence**, meaning that previously separate industries and markets are coming together. In this environment, the **innovator's dilemma** means that company management must decide whether to invest in current technologies or try to develop new technologies. Although leading firms in an industry often develop **sustaining technologies** that result in improved product performance, the revolution has also unleashed a wave of **disruptive technologies** that are creating new markets and reshaping industries and **value networks**.

C. **E-commerce** is growing in importance for both consumer and industrial goods marketers. Generally, commercial Web sites can have a domestic or global focus; in addition, they can be classified as **promotion sites, content sites,** or **transaction sites**. Global marketers must take care when designing Web sites. Country-specific domain names must be registered and local-language sites developed. In addition to addressing issues of technology and functionality, content must reflect local culture, customs, and aesthetic preferences. **Cybersquatting** can hinder a company's effort to register its corporate name as an Internet destination.

D. The Internet is a powerful tool for advertisers; **click-through rates** are one measure of effectiveness. Another trend is **paid search advertising**. New products and services spawned by the digital revolution include: **broadband,** which permits transmission of **streaming media** over the Internet; **mobile commerce (m-commerce)**, which is made possible by **Wi-Fi**, **Bluetooth**, and other forms of **wireless connectivity**; **global positioning systems (GPS);** and **short message service (SMS). Smartphones** are creating new markets for **mobile music** downloads and streaming; smartphones can also be used for mobile gaming and **Internet phone service using VoIP.**

LEARNING OBJECTIVES

15-1 List the major innovations and trends that contributed to the digital revolution.

15-2 Define “convergence” and give an example.

15-3 Define *value network* and explain the differences between sustaining technologies and disruptive technologies.

15-4 Identify current trends in global e-commerce and explain how global companies are expanding their presence on the Web.

15-5 Explain the key issues facing a global company when designing and implementing a Web site.

15-6 Identify the most important new products and services that have been introduced in the past decade.

DISCUSSION QUESTIONS

15-1. Briefly review the key innovations that culminated in the digital revolution. What is the basic technological process that made the revolution possible?

> The origins of the digital revolution can be traced back to the mid-twentieth century; between 1937 and 1942, Atanasoff and Berry developed the electronic digital computer. In 1947, William Shockley and two colleagues at AT&T's Bell Laboratories invented a "solid state amplifier," or the transistor. This was a critical innovation because the vacuum tubes used in computers and electronics products were large, consumed a large amount of power, and generated heat. In the mid-1950s, Sony licensed the transistor from Bell Labs; Sony engineers boosted the yield of the transistor and created the market for transistor radios. During the 1950s, Noyce and Kilby invented the silicon chip, the integrated circuit or IC, the transistor’s modern form which harnessed power in a reliable, low-cost way. The IC permitted the development of the personal computer, whose appearance marked the next phase of the digital revolution.
>
> The basic technological processes that made the computer revolution possible were innovations including binary arithmetic, regenerative memory, parallel processing, and separation of memory and computing functions. The silicon chip, the integrated circuit permitted the development of the personal computer.

15-2. What is convergence? How is convergence affecting Sony? Kodak? Nokia?

> Convergence refers to the coming together of previously separate industries and product categories; new technologies affect the business sector(s) in which a company competes. Sony’s core businesses use digital technology and involve digitizing and distributing

sound, images, and data; this is an example of convergence. Sony's competitors include Dell, Kodak, and Nokia.

Convergence presents challenges (e.g., Kodak, the leader in photography- products for more than a century faces competitors such as Gateway because of convergence).

15-3. What is the innovator's dilemma? What is the difference between sustaining technology and disruptive technology? Briefly review Christensen's five principles of disruptive innovation.

According to Christensen, executives are so committed to a current, profitable technology that they fail to provide adequate investment in new, riskier technologies. Companies listen to and respond to the needs of established customers; Christensen calls this situation the innovator's dilemma.

Dominant firms—"well managed" firms—lead in developing and/or adopting sustaining technologies, incremental or radical innovations that improve product performance. Most new technologies developed by established companies are sustaining in nature; new entrants lead in developing disruptive technologies that redefine performance.

Christensen's five principles of disruptive innovation include:

- Companies depend on customers and investors for resources. The best innovations are user-driven; however, listening to established customers may lead to missed opportunities for disruptive innovation.
- Small markets don't solve the growth needs of large companies. Small organizations can respond to the opportunities for growth in a small market; large organizations should create independent units for new technologies.
- Markets that don't exist can't be analyzed. Companies should embrace agnostic marketing**,** the assumption that no one knows if a disruptive product can be used before using it.
- An organization's capabilities define its disabilities.
- Technology supply may not equal market demand. Some products offer more sophistication than required.

15-4. What is the Long Tail? What implications does this have for market segmentation?

"One of the most interesting aspects of the digital revolution has been noted by Chris Anderson, the editor of *Wired* magazine and author of *The Long Tail*. The book's title refers to the use of the efficient economics of online retail to aggregate a large number of relatively slow selling products. The Long Tail helps explain the success of eBay, Amazon.com, and iTunes, all of which offer far more variety and choice than traditional retailers can. As Anderson explains, "The story of the Long Tail is really about the economics of abundance—what happens when the bottlenecks that stand between supply and demand in our culture start to disappear and everything becomes available to everyone." Anderson notes that "below-the–radar" products—for example, obscure books, movies, and music—are driving revenues at e-commerce merchants such as Amazon.com, Netflix, and iTunes. He says, "These millions of fringe sales are an

efficient, cost-effective business…For the first time in history, hits and niches are on equal economic footing."

Assuming you "buy into" this theory, the implications for market segmentation are quite profound – marketers can create products to suit niches of any size and not have to worry about quantities to support their marketing channel providers. It also means that a producer will have a rough time discontinuing a product in the future.

15-5. Review the key products and services that have emerged during the digital revolution. What are some products and services that are not mentioned in the chapter?

As a result of the digital revolution, a new generation of products, services, and technologies is being developed by a variety of companies in all parts of the world. These include broadband networks, mobile commerce, wireless connectivity, and "smart" cell phones.

A product not mentioned in the chapter is biometrics – the identification of an individual based on personal characteristics like fingerprints, facial features, or iris patterns. While the technology is not new, having seen use for years to restrict access in corporate and military settings, it is only now creeping into everyday life. Over the next few years, people currently unfamiliar with the technology will be asked to use it in everything from travel settings to financial transactions. For example, Piggly Wiggly Co. grocery stores in the South launched a pay-by-fingerprint system. At the Statue of Liberty, to rent, close, and reopen lockers, visitors touch an electronic reader that scans fingerprints.
Source: *Odessa American,* August 12, 2004, p. 8B.

15-6. You have the option of purchasing electronic editions of many of your college textbooks. Is this something that you have done or might do soon?

Student answers will vary.

15-7. How do you access music online: Pandora? Spotify? Tidal? All three? None? What is the basis for your choice?

Student answers will vary.

OVERVIEW

The four P's converge in the world of Internet connectivity and commerce. The product P includes Facebook, Google, Pinterest, Snapchat, Twitter, Wikipedia, and the myriad other Web sites that can be accessed worldwide. The Web also functions as a distribution channel, and a very efficient one at that.

The Internet has also become a key communication platform. The Internet can also be used as an advertising channel, as a public relations (PR) tool, as a means for running a contest or sales promotion, and as for the personal selling effort.

ANNOTATED LECTURE/OUTLINE

THE DIGITAL REVOLUTION: A BRIEF HISTORY

- ✓ **(Learning Objective #1)**

The **digital revolution** is a paradigm shift resulting from technological advances that allow for the digitization of analog sources of information, sounds, and images.

The origins of the digital revolution can be traced back to the mid-twentieth century. Over a 5-year period between 1937 and 1942, John Vincent Atanasoff and Clifford Berry developed the world's first electromechanical digital computer at Iowa State University.

In 1947, William Shockley and two colleagues at AT&T's Bell Laboratories invented a "solid state amplifier," or **transistor**, as it became known.

This was a critical innovation because the vacuum tubes that were used in computers and electronics products at that time were large, consumed a large amount of power, and generated a great deal of heat.

During the 1950s, Robert Noyce and Jack Kilby independently invented the silicon chip (also known as the **integrated circuit** or IC). The IC and the concept of binary code permitted the development of the **personal computer.**

IBM brought its first PC to market in 1981. Bill Gates initially declined an offer to create an **operating system**—the software code that provides basic instructions—for IBM's new machine. Gates later changed his mind and developed the Microsoft Disk Operating System (MS-DOS).

In 1984, Apple introduced the revolutionary Macintosh.

The Internet's origins can be traced back to an initiative by the **Defense Advanced Research Projects Agency** (DARPA) that created a computer network that could maintain lines of communication in the event of a war.

In 1990, the **uniform resource locator** (URL), an Internet site's address on the World Wide Web; **hypertext markup language** (HTML), a format language that controls the appearance of Web pages; and **hypertext transfer protocol** (http), which enables hypertext files to be transferred across the Internet, were all invented by Tim Berners-Lee.

In short, Berners-Lee is the father of the **World Wide Web**. (Exhibit 15-2)

In the mid-1990s, a computer scientist at the University of Illinois named Marc Andersen developed a Web browser; called Mosaic, later changed to Netscape.

Within 5 years of the Web's debut, the number of users increased from 600,000 to 40 million.

The Internet's powerful capabilities and increasing importance have resulted in a backlash that manifests itself in various ways.

Recently, China, India, Brazil, and the EU have taken the position that, because the Internet is global, no single country should be in control.

CONVERGENCE

- ✓ **(Learning Objective #2)**

The digital revolution is causing dramatic, disruptive changes in industry structure.
Convergence is a term that refers to the coming together of previously separate industries and product categories (see Figure 15-1).

INNOVATION, ENTREPRENEURSHIP, AND THE GLOBAL STARTUP
Jack Ma, Alibaba

Jack Ma is an entrepreneur. He has developed several innovative products and services, created new brands, and started companies to market his creations. By applying the basic tools and principles of modern marketing, Ma has achieved remarkable success.

About 80 percent of China's e-commerce is channeled through Alibaba, the company Ma founded in 1999. In 2003, Ma launched a consumer site called Taobao (Chinese for "search for treasure") as an alternative to eBay. At the time, eBay and its Chinese partner, EachNet, dominated the market. Initially, Taobao set itself apart from eBay by not charging sales commissions or listing fees. In less than five years eBays share of the Chinese market was down to single digits, while Taoboa dominated the market with an 85 percent share.

In 2005, Yahoo paid $ 1 billion for a 40 percent share of Alibaba, and Ma became chief executive of Yahoos Chinese operations. In 2014, Alibaba made history when its $ 25 billion initial public offering on the New York Stock Exchange set a record for both the United States and the world.

Despite the "go-slow" market entry strategy in the United States, by 2016 Alibaba was selling nearly 15 billion items per year – three times more than Amazon.

In 2016, Ma announced the formation of the Alibaba Big Data Anti-Counterfeiting Alliance. The Alliance includes some two dozen companies with well-known brand names. A statement issued by the company indicated that Louis Vuitton, Swarovski, and other alliance members would share data and expertise with the goal of authenticating intellectual property and removing listings on Alibaba that infringe IP rights.

Convergence presents challenges (e.g., Kodak, the leader in photography-related products for more than a century faces competitors such as Dell and Hewlett-Packard because of convergence).

VALUE NETWORKS AND DISRUPTIVE TECHNOLOGIES

- ✓ **(Learning Objective #3)**

As noted in the chapter introduction, the digital revolution has created both opportunities and threats.

How is it that some managers have failed to respond to change in a timely manner?

According to Harvard Professor Clayton Christensen, executives are so committed to a current, profitable technology that they fail to provide adequate levels of investment in new, riskier technologies. Companies listen to and respond to the needs of established customers; Christensen calls this situation the **innovator's dilemma.**

In every industry, companies are embedded in a **value network,** which has a cost structure that dictates the margins needed for profitability; the boundaries are defined by order of importance of product performance attributes.

Parallel value networks, each built around a different definition of what makes a product valuable, may exist within the same broadly-defined industry. For example, during the 1980's buyers of portable computers paid a premium for smaller size; mainframe buyers do not value this attribute; value networks for mainframes and portable computers are different.

As firms gain experience, they develop capabilities, organizational structures, and cultures tailored to the requirements of their respective value networks.

Dominant firms lead in developing and/or adopting **sustaining technologies**, incremental or radical innovations that improve product performance.

Most new technologies developed by established companies are sustaining in nature; new entrants lead in developing **disruptive technologies** that redefine performance.

Disruptive technologies go beyond enhancing product performance; they enable something to be done that was deemed impossible and enable new markets to emerge.

To help managers recognize the innovator's dilemma and develop appropriate responses to environmental change, Christensen developed five principles of disruptive innovations:

1. Companies depend on customers and investors for resources. The best innovations are user-driven; however, listening to established customers may lead to missing opportunities for disruptive innovation.

2. Small markets don't solve the growth needs of large companies. Small organizations can respond to the opportunities for growth in a small market. This fact may require large organizations to create independent units for new technologies.
3. Markets that don't exist can't be analyzed. Companies should embrace **agnostic marketing,** the assumption that *no one* knows if a disruptive product can be used before using it.
4. An organization's capabilities define its disabilities.
5. Technology supply may not equal market demand. Some products offer more sophistication than required. Complex accounting software created an opportunity for Quicken and QuickBooks.

GLOBAL E-COMMERCE

✓ **(Learning Objective #4)**

The term **e-commerce** refers to the general exchange of goods and services using the Internet as a marketing channel.

The U.S. Census Bureau reported that U.S. online retail sales revenues in 2016 totaled $390 billion, a figure that represents a 100 percent increase since 2011.

Internet penetration in some world regions is in the low single digits; this is especially true in Africa. By contrast, in several countries, including South Korea, the Netherlands, Greenland, the United Arab Emirates, Bahrain, and Qatar, more than 90 percent of the population is online.

Consider the following statistics:

- Between 2003 and 2014, the number of Internet users in China increased from 68 million to 640 million. This makes China the world's largest e-commerce market. Local companies such as Alibaba and JD.com dominate the market.
- According to Forrester Research, online retail in Western Europe will grow at a compound annual rate of 11.3 percent between 2017 and 2022.

E-commerce activities can be divided into three broad categories:

1. Business-to-consumer (B2C or b-to-c)
2. Business-to-business (B2B or b-to-b)
3. Consumer-to-consumer (or peer-to-peer or P2P).

Overall B2B commerce constitutes the biggest share of the Internet economy and will likely continue to do for the foreseeable future.

Web sites can be classified by purpose:

- **Promotion sites** provide marketing communications about a company's goods or services
- **Content sites** provide news and entertainment and support a company's public relations efforts

- **Transaction sites** are cyberspace retail operations that allow customers to purchase goods and services.

Companies such as FedEx and Gucci are already global in scope, and the Internet constitutes a powerful, cost-effective communications tool.

Companies can also seek e-commerce transactions with customers on a worldwide basis. Today, Amazon.com is the most successful example of this transaction business model.

Today, Amazon is the world's largest retail site, with hundreds of millions of annual visitors.

Online retail in the United States passed the $400-billion mark in 2017.

In some instances, global marketers make the strategic decision to establish a presence on the Web without offering transaction opportunities even though the product could be sold that way.

Rather, such companies limit their Web activities to promotion and information in support of offline retail distribution channels.

There are several reasons for this. First, many companies lack the infrastructure necessary to process orders from individual customers.

Second, it can cost anywhere from $20 million to $30 million to establish a fully functioning e-commerce site.

Until recently, visitors to Web sites for most luxury good purveyors were not give the opportunity to buy. The reason is simple: Top design hours strive to create an overall retail shopping experience that enhances the brand.

This belief is changing, however. Some luxury goods marketers have developed Smartphone and iPad apps to help consumers shop.

As the Internet has developed into a crucial global communication tool, decision makers in virtually all organizations are realizing that they must include this new medium in their communications planning.

Many companies purchase banner ads on popular Web sites; the ads are linked to the company's home page or product- or brand-related sites. Advertisers pay when users click on the link.

Although creative possibilities are limited with banner ads and **click-through rates**—the percentage of users who click on an advertisement that has been presented—are typically low, the number of companies that use the Web as a medium for global advertising is expected to increase dramatically over the next few years.

One of the most interesting aspects of the digital revolution has been noted by Chris Anderson, the editor of *Wired* magazine and author of *The Long Tail.* The book's title refers to the use of

the efficient economics of online retail to aggregate a large number of relatively slow selling products. *The Long Tail* helps explain the success of eBay, Amazon.com, Netflix and iTunes, all of which offer far more variety and choice than traditional retailers can.

WEB SITE DESIGN and IMPLEMENTATION

- ✓ **(Learning Objective #5)**

To fully exploit the Internet's potential, company executives must be willing to integrate interactive media into their marketing mixes.

A critical first step is registering a country-specific domain name.

Cybersquatting—the practice of registering a particular domain name for the express purpose of reselling it to the company that should rightfully use it—is a problem.

Payment can be another problem. In some countries, including China, credit card use is low. Another issue is credit card fraud.

Ideally, each country-specific site should reflect local culture, language usage, customs, and aesthetic preferences.

Logos and other elements of brand identity should be included on the site, with adjustments for color preferences and meaning differences when necessary.

A note of caution is in order: It is not enough to simply translate a Web site from the home country language into other languages.

Another critical global e-commerce issue is privacy.

The European Union’s regulations are among the world’s strictest, regarding privacy.

A number of issues are related to physical distribution decisions. As online sales increase in a particular country or region, it may be necessary to establish local warehouse facilities to speed delivery and reduce shipping costs.

NEW PRODUCTS AND SERVICES

- ✓ **(Learning Objective #6)**

The digital revolution has spurred innovation in many different industries. Companies in all parts of the world are developing a new generation of products, services, and technologies. These include broadband networks, mobile commerce, wireless connectivity, and smartphones (Exhibit 15-6).

Broadband

A **broadband** communication system is one that has sufficient capacity to carry multiple voice, data, or video channels simultaneously.

Bandwidth determines the range of frequencies that can pass over a given transmission channel.

Broadband offers a variety of marketing opportunities to companies in a variety of industries.

Broadband allows Internet users to access **streaming media** such as **streaming audio** and **streaming video**.

Streaming media represents huge market opportunity for the video game industry, which includes electronics companies (e.g., Microsoft and Sony), game publishers (e.g., Electronic Arts), and Internet portals (e.g., Google).

Gamers in different locations, even different countries, compete against each other using PCs, Xbox, or Play-Station consoles.

Cloud Computing

In the preceding section, *cloud computing* was referenced as one driver of higher broadband speeds. The term refers to next-generation computing that is performed "in the cloud."

Rather than installing software such as iTunes or Microsoft Office on a computer hard drive, such applications will be delivered through a Web browser. Cloud computing means that archives—including music and movies files, photos, and documents—are stored on massive remote servers and data centers rather than on individual users' computers.

THE GLOBAL STARTUP: INNOVATIVE THINKING, ENTREPRENEURIAL LEADERSHIP AND THE GLOBAL STARTUP
Reed Hastings, Netflix

Reed Hastings is an entrepreneur. He developed an innovative service, created a brand, and started a company to market it. As is true with many entrepreneurs, Hastings' idea was based on his recognition of a problem that needed to be solved and his own experience as a consumer.

In 1997 Hastings started Netflix, a mail-order DVD rental service. Within a few years, red-and-white Netflix envelopes were appearing in mailboxes throughout the United States.

Netflix's success came at the expense of competitors in the brick-and-mortar video rental business; in 2010, for example, Blockbuster filed for bankruptcy. Hastings was at the forefront in a video industry that was undergoing rapid transformation. However, more change was to come: As the user base of household broadband and lightning-fast 4G mobile networks reached critical mass, streaming video was supplanting physical DVDs as the viewing medium of choice. Hastings responded by offering streaming-content subscriptions for $7.99 per month in addition to DVD rentals. However, Netflix faced competition from Redbox, an upstart DVD rental

company with very low prices, as well as from streaming services such as Hulu.

In January 2016, Netflix rolled out in 130 additional international markets. Irrespective of location, streaming subscribers pay roughly the equivalent of the U.S. subscription rate—between $5.80 and $8.00 per month. Netflix content can also be accessed on hundreds of different devices, including smartphones, tablets, and, of course, televisions.

Computer files can be accessed remotely, via the Internet, from any location and from any computer.

Google's Chrome operating system, which has been described as "a new computing paradigm," is designed to exploit the opportunities of cloud computing. Another industry trendsetter, Amazon.com, has set up Amazon Web Services (AWS) to offer cloud-computing resources to businesses. AWS is a variation on the outsourcing trend that was discussed in Chapter 8; Netflix, foursquare, and thousands of other companies use the service instead of running their own data centers.

However, cloud computing is still in its infancy; a recent service interruption of AWS caused widespread disruptions among its clients. Despite such setbacks, cloud computing is expected to grow at an annual torrid pace of 25 percent over the next several years.

Smartphones

Cell phones have been one of the biggest new product success stories of the digital revolution. Worldwide, 1.5 billion smartphones were shipped in 2017. Soaring demand has boosted the fortunes of manufacturers such as Apple, Huawei, Oppo, and Samsung, as well as AT&T, Deutsche Telekom, U.S. Cellular, Verizon, and other service providers.

New features and functionality give consumers a reason to upgrade their handsets on a regular basis. Conventional cell phones allow text messaging via **short message service (SMS)**, a globally accepted wireless standard for sending alphanumeric messages of up to 160 characters.

SMS is the technology platform that is the basis for Twitter's microblogging service. Industry experts expect marketers to integrate SMS with communication via other digital channels, such as interactive digital TV, the Internet, and e-mail.

Smartphones have much greater functionality than feature phones, incorporating many of the capabilities of computers. Worldwide, smartphones represent about one-fourth of all cell phone sales.

Mobile Advertising and Mobile Commerce

Mobile advertising and mobile commerce (**m-commerce)** are terms for conducting commercial transactions using cell phones as channels for delivering advertising messages and conducting product and service transactions. Most smartphone and tablet users can access the Internet via **Wi-Fi**; in addition, cell phone service providers typically offer data plans that allow

Internet connections via 3G or 4G networks. This allows Apple, Crisp Wireless, Google, Medialets, Mobext, and other companies to offer clients mobile ad services. For example, Unilever, Nissan, and other companies use Apple's iAd service to place interactive ads inside iPhone and iPod apps.

Total worldwide spending for mobile ads was only about $1 billion in 2007; according to eMarketer, at the end of 2016 the figure was nearly $100 billion. Mobile ad spending in the United States totaled $49.9 billion in 2017.

Smartphones that are equipped with **global positioning systems (GPS)** can determine the user's exact geographic position. This capability has created new opportunities for location based mobile platforms, such as Foursquare and Uber. The popularity of GPS-equipped mobile devices is driving interest in location-based advertising.

Cell phone usage is exploding in India. As Manoj Dawane, CEO of Mumbai software company People Infocom, explains, "In India, mobile phone penetration is high compared to other forms of media like television or the Internet. You can't have a better place than India for mobile advertising. "One factor driving mobile ads in India is the low rates that subscribers pay—as little as 2 cents per minute. Demographics play an important role, too. About two-thirds of the Indian population lives in rural areas where television ownership and newspaper readership are low.

Another mobile communication technology, **Bluetooth**, has the advantage of consuming less power than Wi-Fi. This makes Bluetooth well-suited to use with cell phones.

Autonomous Mobility

The Internet-connected car is becoming a reality as automakers rush to incorporate technology into their vehicles.

With a new era of self-driving "robocars", electric vehicles, and shared-mobility services rapidly approaching, most global automakers and suppliers have established research laboratories in California's Silicon Valley tech hub.

Mobile Music

Because of rampant illegal sharing of music files, record companies are searching for new sources of revenue. Thanks to technology convergence, a new generation of cell phones is leading to changes in the mobile music industry.

Mobile music is music that is purchased and played on a smartphone or other mobile device.

The market for paid, legal; full-track music downloads is dominated by Apple's iTunes Store. Music purchased from iTunes can be played back on computers and mobile devices such as the Apple iPod, iPhone, and iPad.

The market for paid downloads has matured rapidly as consumers opt for streaming services. Annual global download revenues peaked in 2012 at about $4 billion. In 2016, streaming revenues totaled about $ 3.9 billion.

Cloud computing, which was discussed earlier in the chapter, is expected to have a major impact on the mobile music business. Cloud-based music services represent a hybrid of the subscription and online store business models; the new approach addresses some of the shortcomings of the existing methods.

Mobile and Online Gaming

Mobile gaming is gaining in popularity; revenues were expected to reach $100 billion in 2017, up from $3.77 billion in 2010. Worldwide, Apple's iPhone, iPod, and iPad are the dominant mobile-gaming platforms.

In the past few years, online gaming has morphed into a spectator sport. In fact, the term **e-sport** has been coined to describe video game competitions in which professional gamers compete for cash prizes than can reach $10 million.

Mobile Payments

Mobile payments – payments using smartphones – received a major boost when Apple launched Apple Pay in conjunction with the iPhone 6 in 2014. Users link their smartphones to their bank accounts; a technology called **near-field communications (NFC)** allow users to "swipe" their phones near a payment terminal to complete a purchase.

Streaming Video

Global penetration of broadband Internet service has fueled the growing popularity of global digital services such as YouTube. Other players in the space include Facebook, Instagram and Twitter.

Number of people who tune into YouTube each **day**: 1 billion
Number of hours of video viewed on YouTube each **day**: 5 billion
Number of hours of new content uploaded to YouTube every **minute**: 300

Internet Phone Service

For the telecommunications industry, Internet telephone service is the "next big thing."
Voice over Internet protocol (VoIP) technology allows the human voice to be digitized and broken into data packets that can be transmitted over the Internet and converted back into normal speech.

Currently, VoIP accounts for only a small percentage of global calling. However, it has the potential to be a disruption innovation that will upset the balance of power in the telecommunications industry.

Skype has become a global phenomenon. In 2005, eBay acquired Skype for $2.6 billion.

Digital Books and Electronic Reading Devices

The digital revolution has had a dramatic impact on traditional print media properties such as newspapers and magazines. Publishers are experiencing dramatic downturns in readership as people spend more time online.

Amazon.com sold the first Kindle for $359; prices for the latest generation Kindle Fire D starts ate $99 (Exhibit 15-11). Apple launched the iPad in March 2010; by mid-2014, Apple has sold more than 200 million devices.

Industry observers think that colleges and universities will be instrumental in building awareness and encouraging adoption of e-readers and e-books. The reason is simple: electronic versions of textbooks represent a huge market opportunity.

For example, the textbook you are reading is available direct from the publisher in the form of an electronic "subscription" at www.coursesmart.com. The online version requires users to be connected to the Internet; the text can be accessed from an unlimited number of computers. Buyers can use the e-book for 180 days before the subscription expires. The price is approximately half of what bookstores charge for a new copy of the physical textbook. Usually, students can print as many as 10 pages at a time; it is also possible to cut and paste, highlight, and take notes directly on the computer.

As is the case with music and movies, digital piracy is a growing problem with e-books. A number of Web sites and file-sharing services distribute unauthorized copies of popular copyrighted material. What do the authors themselves think of the problem? Some view digital piracy as a way to gain new readers. Others say that they simply want fair compensation for their work.

A third camp includes authors who don't think pursuing the pirates is worth the effort.

Wearables

Wearable technology – including fitness bands, Google Glass, Apple Watch, and other products – are reaching a tipping point in terms of sales growth. Technology research firm IDC predicts that annual sales will reach 113 million units by 2018, up from 6 million units in 2013.

CASES

Case 15-1: How Do You Like Your Reality: Virtual? Augmented? Mixed?

Overview: For the past few years, virtual reality (VR) headsets and software have been among the most buzz-worthy new products on display at the International CES show in Las Vegas every January. Artificial Intelligence (AI) has also generated a lot of buzz at CES. To fully appreciate

the VR experience, users don goggles and hold a set of handles. Then, in an area equipped with laser sensors, they are immersed in a 360-degree virtual world. That world can be anything from the bottom of the Indian Ocean, where a person might come face-to-face with a shark, to the top of Mount Everest.

Advocates believe that new user interface is on the horizon, and that VR and augmented reality (AR) have the potential to replace our phones, our TV's, and our desktop computers. Have you heard of "mixed reality" (MR)? Some industry experts have even started using terms such as "personal reality" and "preferred reality" (PR) to describe this new experiential world. VR and AR are just two examples of the way the digital revolution is driving the creation of new companies, industries, and markets.

Discussion Questions:

15-8. What are the differences between VR, AR, and VR?

> To fully appreciate the VR experience, users don goggles and hold a set of handles. Then, in an area equipped with laser sensors, they are immersed in a 360-degree virtual world. Advocates believe that new user interface is on the horizon, and that VR and augmented reality (AR) have the potential to replace our phones, our TV's, and our desktop computers.

15-9. Which technology do you think will be the first to reach mass-market acceptance: VR, AR or MR?

> Student answers will vary; however, I believe VR will be the first to be accepted.

15-10. What experiences have you had with VR? AR?

> Student answers will vary. This editor has had zero experiences with VR and AR.

Case 15-2: Africa 3.0

Overview: Investment in telecommunications and other sectors in Africa is being driven by a variety of factors. Several demographic trends are clear. For example, nearly half the population is under the age of 15. The World Bank reports that half the population lives on $1.25 per day. However, according to a study by the African Development Bank, Africa's middle class now comprises 34 percent of the population, some 313 million people in all. The report defines "middle class" as those who spend between $2 and $20 per day. A narrower definition would include the 120 million. Demand from this emerging middle class has been a boom to telecommunications' companies.

One of the biggest African success stories involves Celtel International, a telecom created by Sudanese businessman Mo Ibrahim. In 2005, Mr. Ibraham sold the company to Zain, based in Kuwait, for $3.4 billion. In 2010, India's Bharti Airtel paid $10.7 billion for Zain's African

assets. Zain had operations in 15 African countries, including Malawi, Chad, and Zambia. The acquisition makes Bharti the world's largest mobile provider—165 million subscribers in all—with operations only in emerging markets.

Not surprisingly, the market opportunity is also attracting investment from other global telecom operators. Arguably the biggest mobile innovation in Africa is M-Pesa (M for "mobile"; *pesa* is Swahili for money"). M-Pesa is a mobile phone– based money transfer service developed by Safaricom Kenya and Vodaphone, with backing from Britain's Department for International Development. Today, however, banks can work with shopkeepers and bar owners who dispense or collect cash and then credit or debit a customer's mobile phone account. The target market is the "unbanked"; that is, people who do not have bank accounts.

Discussion Questions

15-11. The United States and Latin America have been far slower than countries in Africa and Europe in adopting mobile payments technology. Why is this the case?

Student answers will vary.

15-12. Further economic liberalization in Africa depends, in part, on government leaders overcoming suspicions that foreign companies want to exploit Africa. How quickly is this likely to happen?

Not as quickly as one would expect it to develop - unless current leaders decided to change their focus from their individual comforts to their country's needs. The governments of the countries of Africa must open up their countrymen to the new realities and demands of a population growing up in an increasing "global" world-understanding and demanding the same consumer comforts afforded others in the emerging countries of the world.

15-13. If marketers "think local and act local," what are some of the new products and services that are likely to emerge from Africa in the next few years?

Student's can and should mention a wide variety of products and services from their own experiences and lifestyles. Everything from running water, electricity, automobiles, Internet use, clothing, entertainment, and fresh fruits and vegetables are some of the industries and products awaiting the 1 billion people of Africa!

TEACHING TOOLS AND EXERCISES

Cases:

"HTC Corporation: A Smartphone Pioneer From Taiwan", by Lien-Ti Bei and Shih-Fen Chen, Richard Ivey School of Business Foundation, 2012. W11227-PEF-ENG, 22 p.

"Air France Internet Marketing: Optimizing Google, Yahoo!, MSN, and Kayak Sponsored Search". Mark Jeffery; Lisa Egli; Andy Gieraltowski; Jessica Lambert; Jason Miller; Liz Neely; Rakesh Sharma. *HBS* KET319.

"What is the Best Global Strategy for the Internet?". Mauro F. Guillen. *HBS* BH077.

Videos: "Product Red (A) and (B), Video DVD" by Youngme Moon, Michael I. Norton, 2009, video supplement. Product # 509724-VID-ENG.

Four Seasons Embraces Digital Marketing, Virtual Experiences – How they are coping with advertising changes worldwide, and the new moves they are making. http://adage.com/article/cmo-interviews/seasons-embraces-digital-marketing-virtual-experiences/232055/

Activity: Students should be preparing or presenting their Cultural-Economic Analysis and Marketing Plan for their country and product as outlined in Chapter 1.

Movie: *1950s Global Economy, Commerce & World Trade Center Films DVD: Vintage Business Economic Globalization, Foreign Commerce & WTC Footage*. Available from Quality Information Publishers.

This is a DVD compilation of three vintage world commerce and foreign trade films. This is an absolutely wonderful short (25 minutes or so) piece that shows just how much things have changed.

Out-of-Class Reading: Singh, Tanuja, and Mark E. Hill. "Consumer Privacy and the Internet in Europe: A View from Germany." *Journal of Consumer Marketing* 20, no. 7 (2003), pp. 634-652.

Internet Exercise: Take a look at some of the foreign websites of Amazon.com and eBay. How do they differ from our "American" version?

Guest speaker: Invite someone from a company that designs websites and hear what is involved in creating a website for domestic and/or global use.

SUGGESTED READINGS

Books

Kraemer, Kenneth L., Jason Dedrick, and Nigel P. Melville. *Global e-commerce: Impacts of National Environment and Policy*. London: Cambridge University Press, 2006.

Dholakia, Nikhilesh, Wolfgang Fritz, Ruby Roy Dholakia, Norbert Mundorf. *Global E-Commerce and Online Marketing: Watching the Evolution*. Westport, CT: Quorum Books, 2002.

Articles

Anderson, Philip, and Erin Anderson. “The New E-Commerce Intermediaries.” *MIT Sloan Management Review* 43, no. 4 (Summer 2002), pp. 53-63.

Chiu, VCH, "National competitive advantage and cultural proximity: Comparison study of digital content industries in China and Taiwan*" Journal of Media and Communication Studies*, 2012

Evans, Dave & McKee, Jake. "Social Media Marketing: The Next Generation of Business Engagement". Google E-Book, John Wiley and Sons. October 12, 2010

Dickie, Mure. “Amazon Buys into Growing Chinese Online Retail Market.” *Financial Times (London)* (August 20, 2004), p. 20.

Lynch, Patrick, Robert J. Kent, and Srini S. Srinivasan. "The Global Internet Shopper: Evidence from Shopping Tasks in Twelve Countries." *Journal of Advertising Research* (May-June 2001), pp. 15-23.

Samiee, Saeed. "The Internet and International Marketing: Is There a Fit*?" Journal of Interactive Marketing* 12, no. 4 (Autumn 1998), pp. 5-21.

Singh, Tanuja, and Mark E. Hill. “Consumer Privacy and the Internet in Europe: A View from Germany.” *Journal of Consumer Marketing* 20, no. 7 (2003), pp. 634-652.

Mazaheri, Ebrahim, Richard, Marie-Odile & Laroche, Michel. "Online Consumer Behavior: Comparing Canadian and Chinese Website Visitors". Journal of Business Research (Volume 64, p.958-965) 2011

Y Yu, and A. Benlian, "An Empirical Study of Volunteer Members' Perceived Turnover in Open Source Software Projects". 2012 45th *Hawaii International Conference on System"*

Zhang, Cheng, Song, Peijan & Qu, Zhe. "Competitive Action in the Diffusion of Internet Technology Products in Emerging Markets: Implications for Global Marketing Managers". Journal of International Marketing (Volume 19, Number 4, p.40-60) 2011