

The Internet 5

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Although many people believe that the Internet is a 1990s invention, this electronically networked system was actually envisioned in the early 1960s. And in just 40 years, technology has developed from being able to send one letter from one computer to another to being able to send trillions of messages around the world every day.

In this chapter, you'll learn how the Internet works and about Internet resources: the web, email, podcasting, YouTube, blogs, electronic newsgroups, instant messaging, chat, social network sites, and Twitter. Although some social and personal media function through the Internet, they will be discussed in depth in Chapter 14. This chapter focuses primarily on the benefits and challenges of online television and radio and looks at how the Internet—specifically, the web, podcasting, and YouTube—has changed the radio and television industries and how it has changed the way we receive mass-mediated messages and use radio and television. The Internet has improved the lives of many people, but has caused problems for others. With every new technology, only by understanding where it came from can we help guide where it is going.

SEE IT THEN

HISTORY OF THE INTERNET AND THE WORLD WIDE WEB

In the early 1960s, scientists approached the U.S. government with a formal proposal for creating a decentralized communications network that would be used in the event of a nuclear attack. By 1970, ARPAnet (Advanced Research Projects Agency Network) was created to advance computer interconnections.

The interconnections established by ARPAnet soon caught the attention of other U.S. agencies, which saw the promise of using an electronic network for sharing information among research facilities and schools. While disco music was hitting the airwaves, Vinton Cerf, later known as "the father of the Internet," and researchers at Stanford University and UCLA were developing packet-switching technologies and transmission protocols that allow the Internet to function. In the 1980s, the National Science Foundation (NSF) took on the task of designing a network that became the basis for the Internet, as

it's known today. At the same time, a group of scientists in the European Laboratory of Particle Physics (CERN), headed by Tim Berners-Lee, "the father of the World Wide Web," was developing a system for worldwide interconnectivity that was later dubbed the World Wide Web.

ZOOM IN 5.

See Tim Berners-Lee talk about the Internet: www.pbs.org/nbr/site/research/learnmore/berners-lee_world_wide_web_091009/.

HOW THE INTERNET WORKS

The Internet operates as a packet-switched network. It takes bundles of data and breaks them up into small packets or chunks that travel through the network independently. Smaller bundles of data move more quickly and efficiently through the network than larger bundles. It's kind of like when you move and dismantle your home entertainment system. You might put the DVD and CD player in the car but the large screen television in the truck. The home entertainment system is still a complete unit, but when transporting, it's more convenient to move each part separately and then reassemble all of the components when you get them to your new place. Briefly, that's how the Internet works, except it disassembles data rather than a home entertainment system and reassembles the whole unit at its destination point.

On a larger level, an email message, web page information, image, or other online data flow through interconnected computers from its point of origin to its destination. For example, your computer is the origination point, known as

the *client*. The message you send to a friend leaves your client computer and then goes to a server. From there, it travels to one or several routers, then to a server, and finally to your friend's computer, which is also called a client.

ZOOM IN 5.

The Internet turned 40 years old on October 29, 2009. Listen to one of the founders describe when the first email message was sent and other big Internet moments: www.npr.org/templates/story/story.php?storyId=114319703.

Servers are basically powerful computers that provide continuous access to the Internet. A server sends message packets to a router, a computer that links networks on the Internet. A *router* sorts each packet of data until the entire message is reassembled, and then it transmits the electronic packets either to other routers or directly to the addressee's server. The server holds the entire message until an individual directs his or her client computer to pick it up.

Servers and routers deliver online messages through a system called *transmission control protocols/Internet protocols (TCP/IP)*, which define how computers electronically transfer information to each other on the Internet. TCP is the set of rules that governs how smaller packets are reassembled into an IP file until all of the data bits are together. Routers follow IP rules for reassembling data packets and data addressing so information gets to its final destination. Each computer has its own numerical IP address (which the user usually does not see) to which routers send the information. An IP address usually consists of between 8 and 12 numbers and may look something like 166.233.2.44.

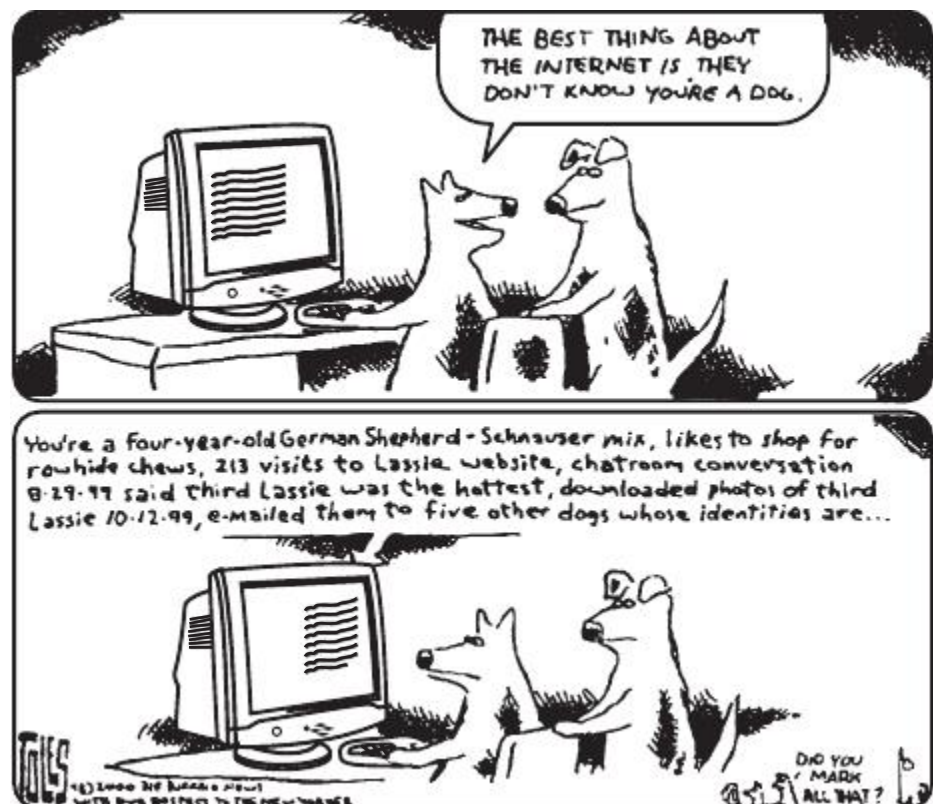


FIG. 5. Toles ©2000 The Buffalo News. Reprinted with permission of Universal Press Syndicate. All rights reserved.

FYI: Top-Level Domains (2010)

.aero	Air transportation industry
.biz	Business
.com	Commercial
.coop	Cooperatives
.edu	Education, university
.gov	Governmental agency
.info	Unrestricted use
.int	International treaties between governments
.jobs	International human resources
.mil	Military
.mobi	Mobile content providers/users
.museum	Museum sites
.name	Individuals
.net	Network providers
.org	Nonprofit/nongovernment
.pro	Professionals
.tel	Business storage and management
.travel	Travel and tourism community

Plus other International domains, such as:

.asia	Asian-originated sites
.uk	United Kingdom

Source: ICANN Registry Listing, 2010.

Because IP addresses are rather cumbersome and difficult to remember, an alternate addressing system was devised. The Domain Name System (DNS) basically assigns a text-based name to a numerical IP address using the following structure: *username@host.subdomain*. For example, in *MaryC@anyUniv.edu*, the user name, *MaryC*, identifies the person who was issued Internet access. The @ literally means “at,” and *host.subdomain* is the user’s location. In this example, *anyUniv* represents a fictitious university. The top-level domain (TLD), which is always the last element of an address, indicates the host’s type of organization. In this example, *edu* shows that *anyUniv* is an educational institution.

ZOOM IN 5.

To see web pages from the old days, go to www.archive.org/details/vlogs and access the WayBack Machine, a service that brings up web sites as they were in the past. The archives go as far back as 1996.

Prior to creation of the web, information stored on the Internet could be retrieved only through a series of complicated steps and commands. The process was difficult, time-consuming, and required an in-depth knowledge

of Internet protocols. As such, the Internet was of limited use. In fact, it was largely unnoticed by the public until 1993 when undergraduate Marc Andreessen and a team of other University of Illinois students developed Mosaic, the first web browser. Mosaic allowed users to access and share Web-based information through clickable hyperlinks instead of difficult commands and interfaces. Mosaic caught the attention of Jim Clark, founder of Silicon Graphics, who lured Andreessen to California’s Silicon Valley to enhance and improve the browser. With Clark’s financial backing and Andreessen’s know-how, Netscape Navigator was born. This enhanced version of Mosaic made Andreessen one of the first new-technology, under-30-year-old millionaires (“Marc Andreessen,” 1997). Once Netscape Navigator hit the market, the popularity of Mosaic as a separate browser plummeted. Since Mosaic, other browsers have come and gone as new and improved ones have been developed.

ELECTRONIC MASS MEDIA ONLINE

So far, this chapter has focused on the history of the Internet and on what the Internet is and how it works. As online technology improved the traditional electronic media—primarily radio and television—saw the potential for increasing their audience and hence, revenue by delivering their content online. Stations and networks slowly developed online counterparts to their traditional over-the-air and cable-delivered content.

THE RISE OF INTERNET RADIO

Almost all local radio stations have established web sites to promote themselves, to provide both news and information, and sometimes to cybercast over-the-air programs and music. These web sites lend credence to the media industry’s concern that Internet users may one day discover that they no longer need radios. Instead, they’ll just access radio programming over the Internet.

The rise of Internet radio somewhat mirrors the development of over-the-air radio. In the early days of radio, amateur (ham) operators used specialized crystal sets to transmit signals and voice to a limited number of listeners who had receiving sets (usually other ham operators). Transmitting and receiving sets were difficult to operate, the reception was poor and full of static, and the sets themselves were large and cumbersome, leaving only a small audience of technologically advanced listeners. In the early days of radio, the technologically adept were the first to gravitate toward the new medium. In the 1990s, the technologically savvy again took the lead, but this time, they paved the way for *cybercasting*. Just as primitive radios and static-filled programs once kept the general public from experiencing the airwaves, bandwidth limitations and slow computer and modem speeds kept many radio fans from listening via the Internet. For example, using a 14.4-Kbps modem, *Geek of the Week*—one of the first online programs—took almost two hours to download the 15 minutes of audio, which was considered very fast at the time.

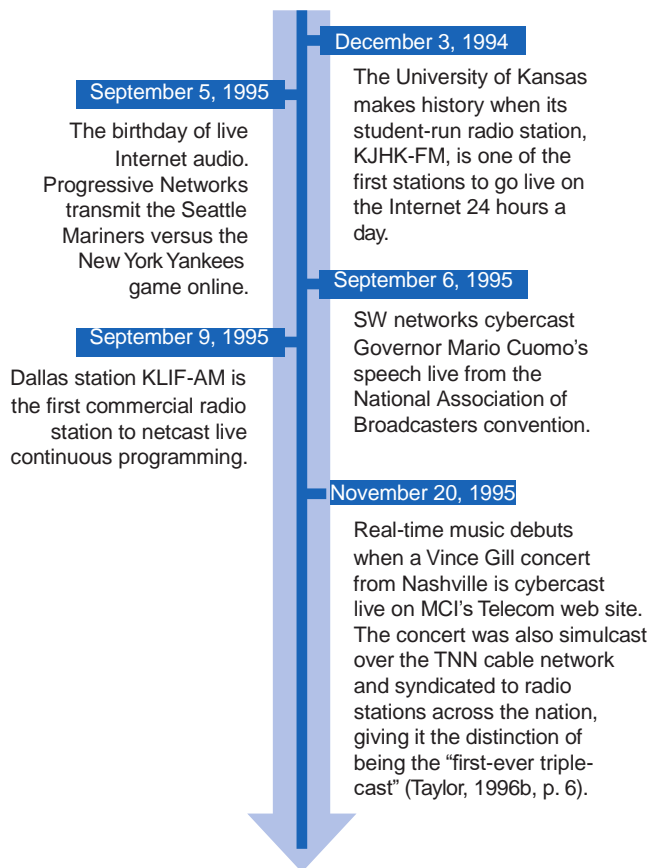


FIG. 5. Highlights of early Internet radio.

Small-to-medium market and college stations generally led the way to the Internet. As their success stories quickly spread throughout the radio industry, other stations eagerly set up their own music sites. RealNetworks, the provider of RealAudio products, was the first application to bring real-time audio on demand over the Internet. Since the introduction of RealAudio in 1994, thousands of radio stations have made the leap from broadcast to online audiocast. By using RealAudio technology, AM and FM commercial radio, public radio, and college stations capture large audiences and moved from simply providing prerecorded audio clips to transmitting real-time audio in continuous streams.

Streaming technology pushes data through the Internet in a continuous flow, so information is displayed on your computer before the entire file has finished downloading. Streamed audio and video selections can be played as they're being sent, so you don't have to wait for the entire file to download. Since RealAudio's introduction, several other companies have developed similar audio-on-demand applications and new protocols for increasing bandwidth for even faster streaming. Online audio has come a long way since the early days of the Internet. Online audio is now all over the Internet. Computer and Internet technology has become less expensive, easier to use, and able to deliver better sound quality, but though it is making strides, online radio has not yet become as popular as its over-the-air counterpart.

FYI: The Internet

The word *Internet* is made up of the prefix *inter*, meaning "between or among each other," and the suffix *net*, short for *network*, which is "an interconnecting pattern or system." An *inter-network*, or *internet* (small *i*), refers to any "network of networks" or "network of computers," whereas *Internet* with a capital *I* is the specific name of the computer network that provides the World Wide Web and other interactive components (Bonchek, 1997; Krol, 1995; Yahoo! Dictionary Online, 1997).

In 1999, online music was transformed when college student Shawn Fanning created Napster, the first software for finding, downloading, and swapping MP3 (Moving Picture Experts Group, Audio Layer 3) music files online. Young adults' love for music made the MP3 format and MP3 player the hottest trend since the transistor radio.

Although it's always been legal for music owners to record their personal, store-bought CDs in another format or to a portable player, sharing copies with others who haven't paid for the music is considered piracy and copyright infringement. At first, music file-sharing sites seemed like a good idea, but they quickly ran into all kinds of copyright problems and found themselves knee-deep in lawsuits.

In the early 2000s, the recording industry launched a vigorous campaign against music pirates. The RIAA has sued nearly 300 music lovers, targeting excessive pilferers. The RIAA is serious about getting its message out: "Importing a free song is the same as shoplifting a disc from a record store" (Levy, 2003b, p. 39). In some cases, the RIAA held individuals liable for millions of dollars in lost revenue, sometimes equaling up to \$150,000 per song. After making its point, the RIAA worked out settlements in the \$3,000 to \$5,000 range and instituted the "Clean Slate Amnesty" program for those who wanted to avoid litigation by issuing a written promise to purge their computers of all files and never download music again. The RIAA's efforts paid off for them; just over half of those who regularly downloaded music illegally claimed that the crackdown has made them less likely to continue to pirate music. Further, the percentage of U.S. Internet users who downloaded music illegally dropped from 29 percent to 14 percent from 2000 to 2004.

FYI

Top Ten Most Downloaded Albums of the Year (00) Overall (According to SoundScan/Nielsen)

		Number of Downloads
1.	Kings of Leon, "Only By the Night"	397,000
2.	Lady Gaga, "The Fame"	352,000
3.	<i>Twilight</i> soundtrack	332,000
4.	Taylor Swift, "Fearless"	300,000

FYI: (Continued)

5.	Jay-Z, "Blueprint 3"	277,000
6.	Dave Matthews Band, "Big Whiskey & The Groogrox King"	276,000
7.	Black Eyes Peas, "The E.N.D. (Energy Never Dies)"	270,000
8.	U2, "No Line on the Horizon"	257,000
9.	Michael Jackson, "Essential Michael Jackson"	251,500
10.	The Fray, "Fray"	251,100

Source: Farber, 2009.

Top Ten Physical CDs (According to SoundScan/Nielsen)

		Number of CD Sales
1.	Taylor Swift, "Fearless"	2,298,000
2.	Michael Jackson, "Number Ones"	2,155,000
3.	Hanna Montana soundtrack	1,689,000
4.	Lady Gaga, "The Fame"	1,659,000
5.	Eminem, "Relapse"	1,533,000
6.	Black Eyed Peas, "The E.N.D. (Energy Never Dies)"	1,440,000
7.	Jay Z, "Blueprint 3"	1,337,000
8.	Kings of Leon, "Only By The Night"	1,254,000
9.	Nickelback, "Dark Horse"	1,253,000
10.	Twilight soundtrack	1,201,000

Source: Farber, 2009.

Napster was at the center of the music download imbroglio. After building a clientele of about 80 million users but facing several years of legal wrangling, Napster went offline in July 2001. Napster made its comeback in late 2003, but this time, as a legal site. The service now charges users per download, with the payments going to music companies, publishers, and artists to make up for what they claim to have lost in CD sales. The question at the time was whether Internet users would pay for what they used to get for free. One study reported that only about one-quarter of Internet users who downloaded music in the past would be willing to pay to do so in the future and another study claimed that only about one-third of college students would pay more than \$8.50 per month to download music. Yet another report found that people who download free music do so to sample it and if they like it, they'll buy it. But as we now know, paying for downloading music has become commonplace and for many preferable to buying a CD.

ZOOM IN 5.4

For more information about RIAA and the "Clean Slate Amnesty" program, visit www.riaa.com.

TELEVISION'S MIGRATION TO THE WEB

Web technologies and content are continually developing, as television has since its inception in the 1940s. Early television programs were largely adapted to the new medium from radio. Programs such as *Amos 'n' Andy*, *Life of Riley*, *The Guiding Light*, *You Bet Your Life*, and *The Lone Ranger* all originated as radio programs, as did many other shows televised in the 1950s. Given the ability of television to bring so much more life to a program than radio ever could, producers began creating new, exciting, dynamic shows.

Many ardent fans have long hailed television as the ultimate form of entertainment. You can watch television anytime, anywhere, and you get to choose what to watch by the push of a button or the flick of a switch. Yet despite the popularity of watching television, the viewing public is always looking for new ways to boost its viewing pleasure.

Over-the-air television was once the primary means of receiving programming. Although cable was established early in the life of television, it didn't take hold with viewers until the 1970s. More recent technologies, especially satellite, gave rise to newer means of program delivery, and the web itself was hailed as the "television of the future." The web was sometimes likened to an advanced form of old interactive television, in which interactivity is the core attraction.

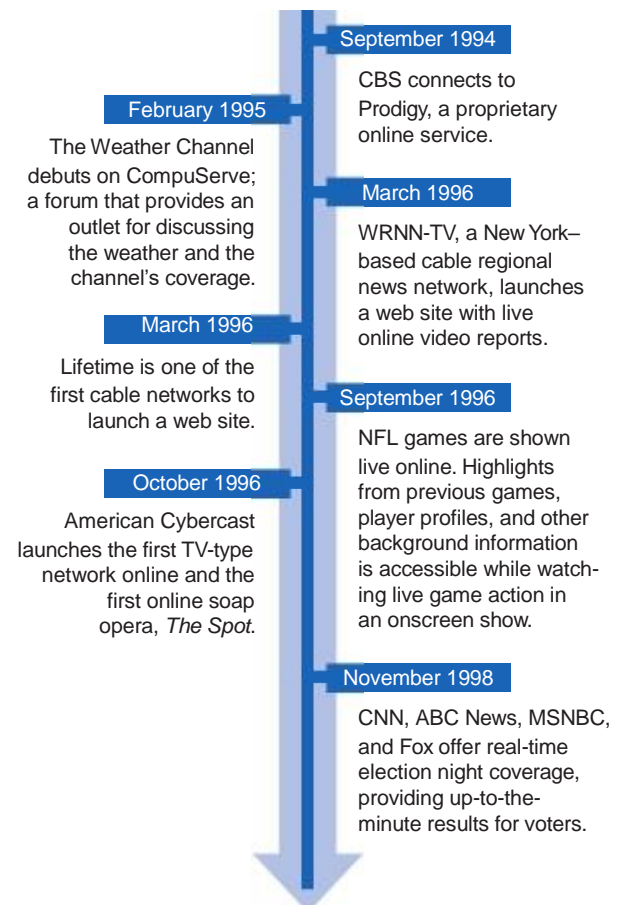


FIG. 5. Highlights of early Internet television.

In the mid-1990s, the Internet was touted as the up-and-coming substitute for television. The physical similarities between a television and a computer monitor, coupled with the promise that online content would soon be as plentiful and exciting as that on television, led people to believe that the Internet would soon replace television. The novelty of the Internet also drew many television viewers out of plain curiosity.

Early reports claimed that between 18 and 37 percent of web users were watching less television than they had before becoming users and that the Internet was cutting more deeply into time spent watching television than with other traditional media. On the other hand, the Internet may not have affected the time viewers spent with television except perhaps among those individuals who watched little television in the first place.

Internet technologies didn't catch up with television. Thus, the 1990s closed with some full-motion video, but the Internet did not evolve into a substitute for television. Internet users with high-end computers could watch short video clips, at most. Users crossed into the twenty-first century with the hope that their desktop machines would soon be capable of receiving both the Internet and television.

SEE IT NOW

INTERNET USERS

The Internet has gone from a largely unknown medium to one now used by over 1.5 billion people worldwide, including 227 million people in the United States (74.1 percent of the population), with most going online every day. Estimates on the number of hours users spend online vary widely, but most research indicates that individuals spend about four hours per day online, which constitutes about 30 percent of their media use per day. Although male users originally dominated the web, women's share of use has increased to the point that they are now about equal to male users. Generally, online users tend to be younger than age 65, highly educated, and more affluent than the U.S.

population at large, and users tend to live in urban and suburban areas.

The sheer number of online users attests to the large variety of online content. As astonishing as it seems there are about 234 million web sites on the Internet. Moreover, each site contains multiple pages. As Tim Berners-Lee pointed out during an interview on PBS's *Nightly Business Report*, there are more web pages than there are neurons in a person's brain (about 50–100 billion). Further, Berners-Lee claims we know more about how the human brain works than about how the web works in terms of its impact on us socially and culturally.

FYI: Internet Use by Demographic Group (2010)

Men	74%
Women	74%
Age	
18–29	93%
30–49	81%
50–64	70%
65	38%
Race/Ethnicity	
White	76%
Black	70%
Hispanic	64%
Household Income	
< \$30,000	60%
\$30,000–\$49,000	76%
\$50,000–\$74,000	83%
\$75,000	94%
Schooling	
Less than High School	39%
High School	63%
Some College	87%
College	94%

Source: Pew Research Center, 2010.

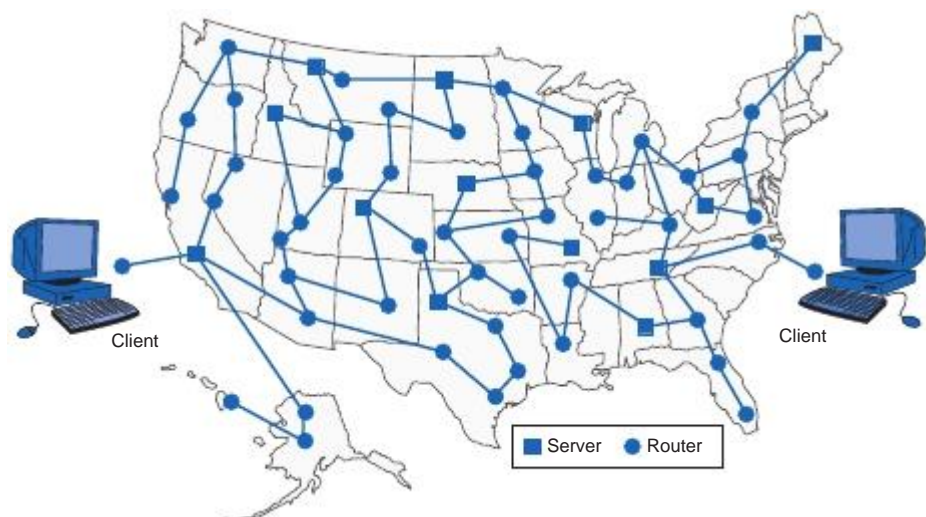


FIG. 5.4 How the Internet works. Source: Kaye & Medoff, 2001.



FIG. 5.5 College students are the most avid of computer and Internet users. Photo courtesy iStockphoto. ©track5, image# 4758492.

FYI: College Students and the Internet

- L 75 percent own a laptop computer
- L 74 percent own an MP3 player
- L 74 percent own a digital camera
- L 61 percent watch movies on their computer
- L 40 percent share video or blog content
- L 38.5 percent own smartphones (the iPhone is the most popular: 18 percent)
- L 33 percent have increased their consumption of webisodes
- L 30 percent watch videos while visiting a social network site

Source: "CollegeStudentsFastest,"2009;"TotallyWiredCampus,"2009.

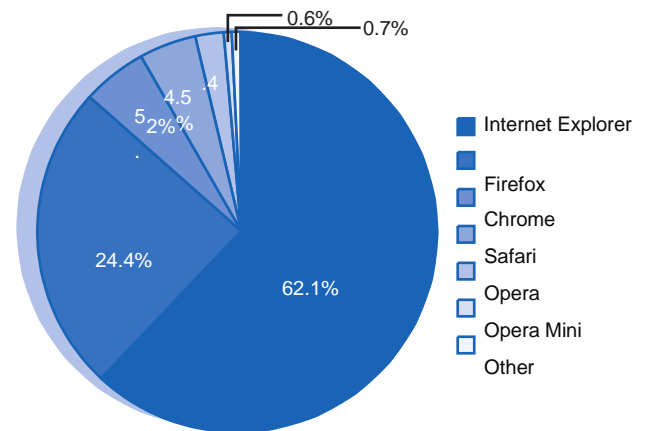


FIG. 5.7 Internet access by provider.

FYI: How Many Online?

This table shows the number of Internet users by continent for the year 2009.

World Regions	Internet Users	Percent of All Users
Oceania/Australia	20 million	1.2
Middle East	57 million	3.3
Africa	67 million	3.9
Latin America/Caribbean	179 million	10.3
North America	252 million	14.6
Europe	418 million	24.1
Asia	738 million	42.6
World total	1.7 billion	
Growth 2000-2009	380.3%	

Source: Internet Usage Statistics, 2009.

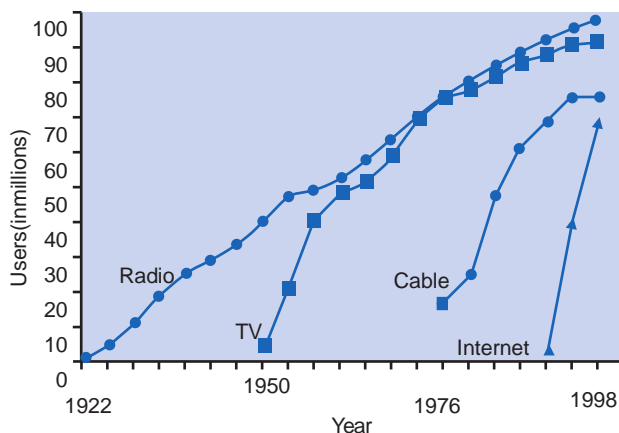


FIG. 5.6 Media adoption rates. Source: Shane, 1999.

INTERNET RESOURCES

The Internet has evolved into a multidimensional resource. No longer is it just a place to view a web site or to send an email; it now contains different types of resources or components, each with different functions and purposes.

WORLD WIDE WEB

The World Wide Web consists of billions of pages within hundreds of millions of web sites. The web presents information in text, graphic, audio, and video formats, making it unique from other Internet resources. Point-and-click browsers, first developed in the early 1990s, make it easy to travel from web site to web site. Gathering information is as easy as clicking your mouse. In the early days the web pretty much consisted of static sites, and email was accessed through special non-web-based software. But now the web serves as a gateway to other online resources. Email, electronic mailing lists, newsgroups, chat rooms, blogs, and social network sites (SNS) are mostly accessed through the web.

The web has changed and is still changing the way information and entertainment are received and sent. Messages ranging from personal news to national and international headlines make their way to the audience via the web. The web is also altering existing media use habits and the lifestyles of millions of users who have grown to rely on it as a source of entertainment, information, and two-way communication.

ELECTRONIC MAIL

Electronic mail, or email, is one of the earliest Internet resources and until recently one of the most widely used applications—in 2009, reports were indicating that social network site use was surpassing email. The popularity of social network sites could be signaling a shift in how consumers are using the Internet.

The first known email was sent from UCLA to Stanford University on October 29, 1969, when researchers attempted to send the word *login*. They managed to send the letter *L* and then waited for confirmation that it had made it to Stanford. They then sent the letter *O* and waited and waited until it arrived. Then they sent the letter *G*, but due to a computer malfunction, it never arrived. Just as the letter *S* was the first successful transatlantic radio signal, the letters *L* and *O* made up the first successful email message.

Email has come a long way since that first attempt. Today, 210 billion email messages fly through cyberspace every day from 1.3 billion email users. The rise of email and the creation of online marketing and billing, business-to-business email, and new systems for collecting and verifying online signatures have reduced reliance on the United States Postal Service (USPS). The volume of mail handled by the USPS has been declining in recent years. From 2000 to 2009, volume declined from 208 billion pieces of mail to 177 billion (“Postal Service Stretched Thin,” 2010). Because there are now more emails (210 billion) sent each day than letters and packages through the USPS each year, the U.S.

Postmaster General has asked Congress to allow the USPS to cut delivery from six days a week to five days to save money in fuel, vehicle wear and tear, and employee wages.

PODCASTING

One of the first times that the term “podcasting” was mentioned was in an issue of *The Guardian* newspaper in 2004. The term is a combination of the acronym “Personal on Demand” (POD) and the word “broadcasting.” According to Jason Van Orden, author of *Promoting Your Podcast*, a *podcast* is “a digital recording of a radio broadcast or similar programme, made available on the Internet for downloading to a personal audio player” (Van Orden, 2008). Podcasts are produced by radio and television stations and networks, talk show hosts, celebrities, professors, and anyone who thinks he or she has something of interest to say about topics such as movies, music, popular culture, cooking, sports, and any others imaginable. Many corporate media web sites—such as npr.org, espn.go.com, and abc.go.com—offer hundreds, if not thousands, of podcasts.

YOUTUBE

YouTube differs from other interactive web sites in that it is specifically used for sharing video. Created in 2005, and acquired by Google in October 2006, YouTube is now one of the most widely used sites, with millions of users watching millions of videos and short clips that range from professionally produced movie and television shows and musical performances to amateur content such as homemade videos of cats playing, people doing stupid things, and car crashes. Almost anyone can upload and watch videos. Many organizations, such as ones supporting political candidates, register for online accounts known as channels, where videos—such as those of candidate speeches—are stored for open access viewing.

BLOGS

Blogs (originally dubbed *weblogs*) are a type of web site that allows users to interact directly with the blog host (blogger). Blogs have been part of the Internet landscape since the late 1990s, but they became popular shortly after September 11, 2001. These diary-type sites were an ideal venue for the outpouring of grief and anger that followed the terrorist attacks on the United States. The subsequent war on Iraq served as the catalyst for hundreds of warblogs and military blogs, which are blogs hosted by soldiers or citizens living in the war zone.

Blogs are free-flowing journals of self-expression in which bloggers post news items, spout their opinions, criticize and laud public policy, opine about what’s happening in the online and offline worlds, and connect visitors to essential readings. A *blogger* may be a journalist, someone with expertise in a specific area such as law or politics, or any everyday person who enjoys an exchange of opinions. *Blog readers* (those who access a blog) post their comments about a current event, issue, political candidate, or whatever they want to the blogger. These comments are often accompanied by links to more information and analysis and to related items. The blogger posts the blog readers’ comments and links and adds

his or her own opinions and links to more information. Blog readers are attracted to the freewheeling conversation of blogs and to the diverse points of view posted by the blogger and other blog readers.

ELECTRONIC MAILING LISTS

Electronic mailing lists are similar to email, in that messages are sent to electronic mailboxes for later retrieval. The difference is that email messages are addressed to individual recipients, whereas electronic mailing list messages are addressed to the electronic mailing list's address and then forwarded only to the electronic mailboxes of the list's subscribers.

Electronic mailing lists connect people with similar interests. Most such lists are topic-specific, which means subscribers trade information about specific subjects, like college football, gardening, computers, dog breeding, and television shows. Many clubs, organizations, special interest groups, classes, and media use electronic mailing lists as a means of communicating among their members. Newsletters, class handouts, club meeting dates, and so on are sent out through the list, rather than as photocopies or other paper material that are sent through the USPS. Most electronic mailing lists are open to anyone; others are available only on a subscribe-by-permission basis. Electronic mailing lists are often referred to generically as listservs; however, LISTSERV is the brand name of an automatic mailing list server that was first developed in 1986.

NEWSGROUPS

Similar to electronic mailing lists, newsgroups bring together people with similar interests. Web-based newsgroups are discussion and information exchange forums on specific topics, but unlike electronic mailing lists, participants are not required to subscribe and messages are not delivered to individual electronic mailboxes. Instead, newsgroups work by archiving messages for users to find and access at their convenience. Think of a newsgroup as a bulletin board hanging in a hallway outside of a classroom. Flyers are posted on the bulletin board and left hanging for people to come by, sift through, and read.

CHAT ROOMS

A chat room is another type of two-way, online communication. Chat participants exchange live, real-time messages. It's almost like talking on the telephone, in that a conversation is going on, but instead of *talking*, messages are *typed* back and forth. There are many different types of chat rooms covering many different topics. Chat is commonly used for online tech or customer product support. Chat is very useful for carrying on real-time, immediate-response conversations with people from around the world.

INSTANT MESSAGING

Instant messaging (IM) lets you carry on real-time conversations with your friends. But instead of talking, you type in your messages. Whereas a chat room conversation occurs among anonymous individuals, instant messaging occurs among people who know each other.

Instant messaging is basically a private chat room that alerts you when friends and family are online, waiting for you to converse. Because you are synchronously linked to someone you know, IM has a more personal feel than a chat room and is more immediate than email. Instead of sending messages for anytime retrieval, you're actually conversing with friends and family in real time. Some IM software boasts video capabilities, so you and your online buddies will feel like you're in the same room.

ZOOM IN 5.5

Go to any search service and do three searches on "blogs," "newsgroups," and "social network sites." Click on some of the returned links or try a directory to find interesting ones. Join one of each and keep track of the activity.

Go to Yahoo! (messenger.yahoo.com) for instructions on downloading instant messaging software. Then instant message your friends and classmates.

"Instant messaging" differs from "text messaging" in that IM is Internet-based on computer-to-computer connections, whereas texting occurs between cell phones and other handheld devices. Instant messaging services were once the domain of America Online (AOL) and Microsoft, but recently Skype and Facebook added IM applications.

SOCIAL NETWORK SITES

Millions of online users are drawn to SNS as a means of keeping in touch with existing friends and family and building a network of new "friends" based on shared interests and other commonalities, such as politics, religion, hobbies, and activities. Although social network sites hit their stride in the late-2000s, they have been in existence since the late 1990s. SNS such as sixdegrees.com, AsianAvenue, BlackPlanet, and LiveJournal were the precursors to the second wave of SNS, which includes MySpace and Facebook. There are now hundreds of web-based SNS.

TWITTER

Twitter is the newest social network rage. Restricted to 140 character text messages known as "tweets," senders have the choice of limiting recipients to their network of "friends" or allowing open access. Millions of users are drawn to the convenience and ease of sending and receiving message either through the Twitter web site or via other devices, such as cell phones and Blackberrys. Critics claim that most tweets, also known as *micro-blogging*, are nothing but useless babble that just clog up in-boxes and waste users' time.

NAVIGATING THE WORLD WIDE WEB

Web browsers, such as Internet Explorer, are tools that allow access to online content. Browsers interpret Hypertext Markup Language (HTML), a web programming language, and reconstruct text and graphics. Hypertext is

“non-linear text, or text that does not flow sequentially from start to finish” (Pavlik, 1996, p. 134). The beauty of hypertext is that it allows nonlinear or nonsequential movement among and within documents. Hypertext is what lets you skip all around a web site, in any order you please, and jump from the beginning of a page to the end and then to the middle, simply by pointing and clicking on hot buttons, links, and icons.

FYI

Top Web Sites by Unique Visitors: September 00

Property	Videos
Google sites	198 million
Yahoo! sites	164 million
Microsoft sites	133 million
AOL sites	100 million
Facebook.com	95 million
Ask Network	93 million
Fox Interactive Network	85 million
eBay sites	70 million
Amazon sites	68 million
Wikipedia sites	67 million

Source: “ComScore Top 50 Properties,” 2009.

All web browsers operate similarly, yet each has its own unique features and thus markets itself accordingly. The competition among browsers has always been stiff and market share fluctuates. For example, in the mid-1990s, Netscape Navigator led the U.S. market, but by 2003 Internet Explorer (IE) commanded a 90 percent share of users, which left Netscape with only about a 7 percent share, and Mozilla and other browsers fighting for the remaining market.

A decade into the new millennium, the two pioneering browsers, Mosaic and Netscape Navigator, are now defunct, having been replaced with more sophisticated ones such as Safari, Mozilla Firefox, and newcomer Google Chrome, which have eroded IE’s market. Internet Explorer is still the most widely used browser, but only holds about 62 percent of the online market. Firefox is a distant second, capturing about 24 percent of Internet users, followed by Safari (5 percent) and Chrome (5 percent, released in 2008), with the rest of the online market using several other less popular browsers.

AOL is a proprietary company that provides online services to its subscribers. Sometimes the term “walled garden” is used to describe AOL’s business model. Basically, subscribers paid a monthly fee for which they received an email account and could play games, use chat and instant messaging, build home pages, and access AOL’s online information. The costs associated with operating an online walled area where only subscribers can enter are high, so AOL has repositioned itself as a content provider, similar to Yahoo!. To do so means depending on more advertising and less on subscribers. AOL now offers free access to the Internet, email accounts, and other online resources.

Rather than go through a proprietary service, most users connect to the Internet through an Internet Service Provider (ISP), which provides broadband, satellite, and even old-school telephone dial-up service. Once connected, users select a browser to travel throughout the Internet.

THE WORLD WIDE WEB AND THE MASS MEDIA

Many Internet users are abandoning traditionally delivered radio and television for Internet delivery, figuring that it’s better to access static-free, online audio than to listen to an over-the-air broadcast and that it’s more convenient to read about current events and watch video clips or programs online than to wait for a television program to come on.

FYI: Hypertext Mark-Up Language (HTML)

HTML is the World Wide Web programming language that basically guides an entire document or site. For instance, it tells browsers how to display online text and graphics, how to link pages, and how to link within a page. HTML also designates font style, size, and color.

Specialized commands or tags determine a document’s layout and style. For example, to center a document’s title—say, *How to Plant Roses*—and display it as a large headline in italic, the tags `<center><H1></>` are inserted before and after the title, respectively, like this:

```
· center · · I · · B · HOW TO PLANT ROSES
· /center · · /I · · /B ·
```

The first set of commands within the brackets tells the browser to display the text centered and in bold italics. The set of bracketed commands containing a slash tells the browser to stop displaying the text in the designated style.

The HTML source code for most web pages can be viewed by clicking on the “View” pull-down box in the browser’s tool bar and then clicking on the “Document Source” option. Note in Figure 5.9, in the source code, that the `, img src 5 hangL.gif align 5 left.` command places the image of the hanging flowers next to the headline.



FIG. 5. Simple text-based web site.



FIG. 5. HTML source code for the "How to Plant Roses" web page.

One of the main concerns about online content doesn't regard delivery but the nature of the content itself. Decentralized information dissemination means that online materials are often not subjected to traditional methods of source checking and editing. Thus, they may be inaccurate and not very credible.

When listeners tune to radio news or viewers watch television news, they are generally aware of the information source. They know, for instance, that they're listening to news provided by National Public Radio (NPR) or

watching the ABC network. In addition, broadcast material is generally written and produced by a network or an independent producer or credentialed journalist. In general, audiences rely on these sources and believe them to be trustworthy, accurate, and objective.

However, Internet users, especially novices, cannot be sure that what they read and see online is credible and accurate, especially if it is posted by an unfamiliar source. Many web sites are posted by reliable and known sources, such as CNN and NBC. However,

anyone can produce a web page or post a message on a blog, a social network site, bulletin board, or chat room, bringing into question source credibility. Such User Generated Content (UGC) now accounts for more online information than that produced by journalists, writers, and other professionals. Internet users must grapple with the amount of credence to give to what they see and read online. Thus, it's a good idea to sift through cyber information very carefully. It is the user's responsibility to double-check the veracity of online information. Users should be cautious of accepting conjecture as truth and of using web sources as substitutes for academic texts, traditional books, and other media that check their sources and facts for accuracy before publication.

ONLINE RADIO TODAY

Being a disc jockey (DJ) or a station manager or owner may seem like an unattainable career aspiration. But with Internet know-how, an online connection, and the right software, that dream can come true. Getting into the business of online radio is much less expensive and a whole lot easier than buying a broadcast station or competing with other DJs for a couple of hours of over-the-air time. And Internet radio has caught the ears of web users and has the potential of becoming a viable alternative to over-the-air broadcasting. Online radio offers so much more to its audience than broadcast stations, which are limited by signal range and audio-only output. Internet radio delivers audio, text, graphics, and video to satisfy a range of listener needs.

Currently, almost all of the nation's 13,000 radio stations have some sort of Internet presence. Although some audio sites are actually radio station web sites that retransmit portions of their over-the-air programs, others produce programs solely for online use and are not affiliated with any broadcast stations. Many of these sites offer very specific types of music in an attempt to reach small target audiences. A site may feature, for example, Swedish rock, Latin jazz, or other very specific and hard-to-find music. There are hundreds of audio programs available, you just need to go to any online search service or radio program guide to get the time and place of a live program or a long list of web site addresses on which audio files reside. Radio stations are also accessible through iTunes. Radio station web sites are promotional by nature, and most also offer local news and entertainment information and have the capability of transmitting audio clips or delivering live programming. However, doing so has hit a snag. Streamed audio is a great way for consumers who don't have access to a radio or who live outside the signal area to listen to their favorite station. But after many complaints from record labels, artists, and others, the Library of Congress implemented royalty fees, requiring webcasters to pay for simultaneous Internet retransmission. The fees vary from per-song costs to a percentage of gross revenues, depending on the online pricing model. Whatever the exact amount charged, labels and artists claim this fee is too low, online music providers say it's too high.

FYI: Challenges of Internet Radio

- L With a slower connection, the delivery may be choppy, with dropped syllables and words.
- L High treble and low bass sounds are diminished, as the data squeeze into available bandwidths.
- L Without external computer speakers quality of sound is often like listening to AM radio or FM mono radio, at best.
- L A high-speed cable modem or direct Internet access with increased bandwidth is needed to hear audio of FM stereo-quality and even CD-quality sound.
- L There is a delay when downloading audio files.
- L Many online radio stations and audio sites cannot accommodate more than a few hundred simultaneous listeners.
- L There is a lack of portability.

FYI: Benefits of Internet Radio

- L Web audio files can be listened to at any time.
- L Netcasts can be listened to from anywhere in the world, regardless of their place of origin.
- L Online radio can be heard and seen. Song lyrics, rock bands in concert, and news items can be viewed as text, graphics, or video.
- L Online radio supports *multitasking*, or the ability of users to listen to an audio program while performing other computer tasks and even while surfing the web.

From over-the-air to over-the-Internet

Broadcast radio stations are concerned that their listening audience is leaving them behind for online music. Although some studies claim that radio listening is decreasing among Internet users, others claim that radio is gaining favor among those who go online.

Early online radio was difficult to listen to and hard to access. Downloading a music file took an excruciatingly long time. Moreover, the playback was tinny and music would often fade in and out. Few Internet users had computers that could handle audio, and few stations were streaming live content. Given these problems, several older studies found that in the late 1990s only 5 to 13 percent of web users reported that the amount of time they spent listening to over-the-air radio had decreased as a result of using the web. A study of politically interested Internet users has reported that 27.7 percent spend less time with radio news since becoming Internet users. A more recent look at 12- to 20-year-olds found that 85 percent prefer to listen to music on their MP3 player and 54 percent would rather listen to music over the Internet than over-the-air radio. Only about one-third still favor AM/FM radio. And when it comes to exposure to new music, about two-thirds say they learn more about new songs and bands from the Internet than from the radio. In general, online radio listening jumped from 33 to 42 million weekly listeners from 2008 and 2009. Online listeners tend to be young, upscale, educated, and employed full-time, whereas older listeners prefer

over-the-air radio. Further, over-the-air radio can't do what sites like Pandora can do online: find songs you like. When you listen to a song, Pandora asks you to rate it, and if you like it, it will find other similar types of music for you that you put into your own online music library. Pandora helps you set up your own music playlist; it's like having your own radio station, but one that plays only your favorite music.

The advantage of over-the-air radio is that it can be listened to while surfing the Internet and engaging in many other activities. Online radio is also conducive to multitasking and has the advantage of convenience and timeliness. Rather than turn on a radio and wait for a long period of time to hear the latest news or a favorite song, Internet users can just as easily connect online and listen to audio-streamed news and music at their convenience and of their liking. So Internet users may not be turning their backs on traditional radio content, but rather abandoning the old over-the-air delivery for the new online delivery, which provides clearer audio at convenient times and can be set to play a user's favorite types of music. If listeners are going to go to the Internet anyway, it makes sense for broadcast stations to offer streamed programming and other over-the-air content online so that listeners at least migrate to the stations' online counterparts.

Portable music/ideo players and downloading music and ideo

The purpose of a podcast is not just to transfer readable information to audio format, but provide users with updated and sometimes live online audio. Different from a typical audio file, a podcast is created through an RSS (Real Simple Syndication) feed, which is in a standardized format used to publish frequently updated materials, such as news headlines and blog entries. Technically, a podcast is an audio file embedded in an RSS feed.

Podcasts are subscribed to through a software program, known as a podcatcher. Once signed up, all you have to do is plug your MP3 player into the computer and the new podcast episodes are automatically synced. Podcasts free listeners from media, business, and personal schedules, and they can be archived on a computer or burned onto a CD.

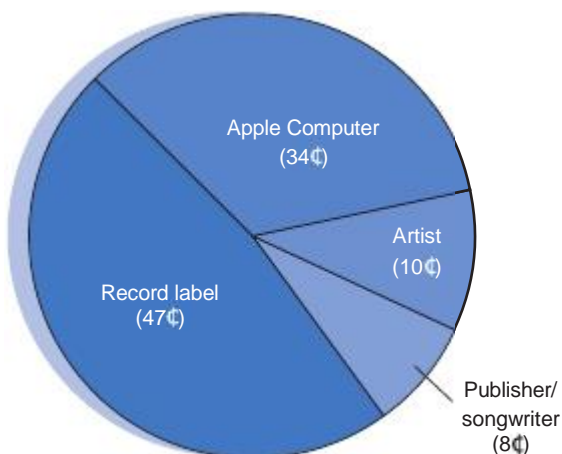


FIG. 5.0 99 cents per download. So where does your 99 cents go when you pay to download a song from a legal music site? Here's an example from Apple's iTunes. Source: *Sports*, 2003.

FYI: Downloading Music Sites

Site	Lowest Price Per Song	Monthly Subscription	# of Titles
iTunes	\$0.99	no	8 million
Napster	\$0.99	yes	7 million
Amazon MP3	\$0.89	no	6 million
Rhapsody	\$0.99	yes	5 million
Zune Marketplace	\$0.98	yes	5 million

With podcasting as the new downloading rage, the question arises as to how media organizations consider people who download music and other audio and video programs—are they listeners and viewers? If someone subscribes to the podcasts of National Public Radio's *Talk of the Nation*, or to *Lost* episodes through abc.go.com, should they be considered a radio listener or television viewer or merely a podcaster? Perhaps the consumption of content is what matters rather than the mode of delivery. As the number of podcasts and podcasters surge, the media have much to consider; they need to redefine themselves and rethink their methods of content delivery and how to measure their online and mobile audiences.

It's impossible to give a definitive number of available podcasts. Podcast Alley, a well-known podcast directory, lists just over 70,000 podcasts containing more than 4.5 million episodes. Class lectures, interviews, tutorials, stories, training, and speeches are often podcast. Pew Research reports that the most popular podcast topic is "technology," followed by "comedy," "religion and spirituality," and "business."

Podcasts are accessed by 19 percent of all U.S. Internet users. With about 250 million Internet users in the United States, that percentage translates into 47.5 million podcasters—an incredibly high number considering that podcasting first became known to the online public only in 2004. The typical podcaster demographically resembles those who are usually the first to try out a new online resource—males, younger than age 65, with high incomes and a college degree. Also, those who have been going online for six years or more are more likely to listen to podcasts than online newbies.

File sharing and downloading, both legal and illegal, spawned a new way to obtain and listen to music and other audio files. Gone are the days when a song or audio clip could take up to an hour to download and then be so garbled that it wasn't worth the effort. Cybercasting, either by live streaming or by downloading, is a great way for little-known artists who have a hard time getting airplay on traditional stations to gain exposure. Additionally, listeners can easily sample new music, and links are often provided to sites for downloading and purchasing songs and CDs. Downloading music from online sites has boomed in recent years especially since the advent of the iPod and other portable digital music devices. Digital music sales top about \$2 billion a year. An estimated 5 billion



FIG. 5. With the Internet, you can study and work anywhere. Photo courtesy iStockphoto. ©adamdodd, image# 4481014.

songs were traded on peer-to-peer sites and 500 million were purchased online in 2006. In 2008, an astounding 1 billion songs were bought online—a 27 percent increase from the year before—from music services such as iTunes, Napster, Rhapsody, Zune, e-music, Pandora, and Amazon MP3. Unfortunately, the revenue generated by online sales doesn't make up for the downturn in CD sales, which have been decreasing since 2000.

And the RIAA is still going after music pirates. In the summer of 2009, a 32-year-old Minnesota mother of four and a Boston University graduate student were both fined for illegally downloading music. The woman was fined \$80,000 for each of 24 songs she illegally downloaded, for a total judgment of \$1.9 million—for songs that only cost 99 cents each; the graduate student was fined \$675,000 for illegally downloading and sharing 800 songs between 1999 and 2007. Evidently, the courts are taking the issue of illegal downloads very seriously.

The advantages of moving your audio files from your PC to a portable player are that you can take your music with you anywhere and that you can download and organize whatever music you want to hear. Whether your portable music device plays MP3 files or CDs, it lets you escape into another world. Taking a bus ride or long flight, grocery shopping, exercising, and other mundane activities are all easier to endure with your favorite music or an interesting podcast. In fact, the use of portable music players is sometimes criticized for making it too easy to avoid the world at hand and to shut out other people, and that they are too distracting and thus dangerous in certain situations.

THE INTERNET AND TELEVISION

Many claim that using the Internet is functionally similar to using television: Users face a screen displaying text and

graphics that—in some instances—also includes audio and video components. Switching from web site to web site is, in some ways, similar to changing television channels. When Internet users wish to switch from one web site to another, they may do so by typing in a known uniform resource locator (URL), by simply clicking on a link, or by clicking on their browser's "Back" and "Forward" buttons, which function like the up and down arrow keys on a television remote control device. Even the lingo of web browsing is borrowed from television. Commonly used terms such as *surfing* and *cruising* are used to describe traversing from one web site to another and are also used to describe television channel-switching behavior.

FYI: Top U.S. Online Video Content Providers Videos Viewed (November 2009)

Property	Videos
Google sites	12.2 billion
Hulu	924 million
Viacom Digital	499 million
Microsoft sites	479 million
Yahoo! sites	470 million
Fox Interactive Media	446 million
Turner Network	336 million
CBS Interactive	287 million
AOL LLC	227 million
Megavideo.com	201 million

Source: "Top U.S. Online Video Content Properties," 2009.

Now, new combo computer monitors/televisions further integrate the utility of the Internet and television. Flat-panel displays connect into DVD players, DVRs, televisions, and computers. These monitors also feature

FYI: Home Internet Access

Percent of U.S. Households	
Y 2000	42.0%
Y 2001	51.0%
Y 2002	52.9%
Y 2003	55.1%
Y 2004	56.8%
Y 2005	58.5%
Y 2006	60.2%
Y 2007	62.0%
Y 2008	63.6%
Y 2009	74.1%

picture-in-picture capabilities that let you size the television window so you can watch your favorite program while using your computer.

AUDIENCE FRAGMENTATION

The traditional broadcast television model expected programs to appeal to millions of viewers. Then cable television came along and altered the model by introducing *narrowcasting*, in which topic-specific shows are expected to appeal to smaller but more interested and loyal audiences. The Internet has taken narrowcasting a step further by targeting information to smaller groups and individuals and cybercasting it straight to home computers and even to pagers and cell phones. The web is thus becoming a “personal broadcast system” (Cortese, 1997, p. 96).

The television industry is worried that the web is further fragmenting an already fragmented audience. In the early days of television, viewership was mostly shared among three major broadcast television networks, which were and still are fiercely competitive. (Even a small gain in the number of viewers means millions of dollars of additional advertising revenue.) Cable television, which often offers hundreds of channels, has further fragmented the viewing audience. Now, as viewers increasingly subscribe to cable and satellite delivery systems and turn to the web as a new source of information and entertainment, the size of television’s audience is eroding further—and with it, potential advertising revenue.

To help offset audience loss and to retain current viewers, most television networks have established web sites on which they promote their programs and stars and offer visitors insights into the world of television. Many new and returning television shows are heavily promoted online with banner ads, a web site, and sometimes blogs, Twitter, bulletin boards, and chat rooms. As one TV executive said, “The more they talk about it, the more they watch it” (Krol, 1997, p. 40). Television program executives view the Internet as a magnet to their televised fare.

USING TELEVISION, USING THE WEB

In many ways, how we use the web closely mirrors our television viewing. There are two basic ways we watch television: instrumentally and ritualistically. *Instrumental viewing* tends to be goal-oriented and content-based; we watch television with a certain type of program in mind. *Ritualistic viewing* is more habitual in nature; we watch television for the act of watching, without regard to program content.

Internet users also connect to the web both instrumentally and ritualistically. Sometimes, we may go online seeking specific information; we pay attention to content and actively move from site to site with a clear goal in mind. At other times, we may get on the web because it’s a habit or just to pass time, exploring sites by randomly clicking on links. You can’t use the web as mindlessly as you can watch television, but many pages are designed to let you kick back and become a “web potato” instead of a “couch

potato.” Pages are designed to be compelling and hold your attention longer on each screen, so you don’t have to scroll and click as much. Longer video and audio segments are aimed at keeping you glued to the screen for longer periods of time. As video monitors become larger and resolution clearer, you’ll feel like you’re watching television, rather than a computer.

SELECTING TELEVISION PROGRAMS AND WEB SITES

Wielding a television remote control device gives viewers the power to create their own patterns of television channel selection. Some viewers may quickly scan through all the available channels; others may slowly sample a variety of favorite channels before selecting one program to watch. Television viewers tend to surf through the lowest-numbered channels on the dial (2 through 13) more often than the higher-numbered channels. Unlike television, however, the web doesn’t have prime locations on its “dial,” so one web site doesn’t have an inherent location advantage over another. However, sites with short and easy-to-remember domain names may be accessed more frequently than their counterparts with longer and more complicated URLs.



FIG. 5. The Internet keeps us connected to the latest news and events. Photo courtesy iStockphoto. ©sjlocke, image #9652079.

As users become adept at making their way around the web, customized styles of browsing are emerging. Some users may access only a set of favorite sites; others may not be loyal to any particular site. When viewers sit down to watch television, they usually grab the remote control and start pushing buttons. But instead of randomly moving from one channel to another, most viewers have developed a favorite set of channels they go through first. Most viewers’ channel repertoire consists of an average of 10 to 12 channels, regardless of the number of channels offered by their cable systems.

These television-viewing behaviors may be transferred to using the web. As users become more familiar with

online content, they may develop their own repertoire of favorite sites that they link to regularly. These selected sites can be easily bookmarked for instant and more frequent access.

Similar to how television adapted its programs from radio, many web sites reproduce material that has already appeared in traditional media. For instance, many news sites and other media-oriented sites are made up largely of text taken directly from the pages of newspapers, magazines, brochures, radio and television scripts, and other sources. In some cases, however, materials are adapted more specifically to the web. The text is edited and rewritten for visual presentation and screen size, and short, summary versions may be linked to longer, detailed ones. Bold graphic illustrations, audio and video components, and interactive elements also enliven web pages and give them a television-like appearance.

Television-oriented sites are still typically used to promote televised fare and are among the most popular web sites, excluding search services. Each of the big-three television networks (ABC, NBC, and CBS) and dozens of cable networks tried out the web for the first time in 1994 and all now have their own web sites. You can go online to find out the week's guest lineup on *The Late Show with David Letterman*, to find out what happened on your favorite soap opera, to chat with other fans about your favorite show or star, and to find out about upcoming episodes.

IS THE WEB STEALING TELEVISION'S VIEWERS?

Just as radio's audience was encroached on by broadcast television and, in turn, broadcast television's viewers were drawn to cable, many fear that the web is slowly attracting users away from radio and television. Time spent on the web is time that could be spent watching television, in particular.

Until about the mid-2000s, television was a bit protected from web pillaging for several reasons. Online technology couldn't deliver the same clear video and audio/video syncing as television, not all television programs were available online in their entirety, and television-quality original web programs were scarce. Some web sites, however, did offer short episodes (*webisodes*) of online-only programming.

But that was yesterday. Now, given all of the advances in full-motion video technology, you can now watch almost every television program online and at your convenience on web sites such as Hulu.com, YouTube.com, TV.com, Joost.com, and Fancast.com. And depending on the age and model of your television and computer, the audio and video quality may even be superior online. Given the Internet's vast storage capabilities, it's getting easier to go online and watch any program without being tied to a television schedule.

Millions of viewers are watching television online every day, and it is becoming a common entertainment activity. About 67 percent (167.5 million) of U.S. Internet

users have streamed or downloaded digital video, and 35 percent of all Internet users have streamed full-length television episodes. Although about 4 in 10 episode streamers are between the ages of 18–34, even about 25 percent of those 35–54 watch television online. As expected, younger viewers spend more time watching online shows—those 18–34 spend about 4 to 5 hours per week and those over age 35, about 2.5 to 3.5 hours. Ironically, work time is prime time on the web. About 65 percent of online streaming happens Monday through Friday, between 9 a.m. and 5 p.m.

Programs such as *The Office*, *Ugly Betty*, and *Grey's Anatomy* are both television and computer hits. For example, the season four premiere (September 27, 2007) of *The Office* garnered 9.7 million television viewers and 2.7 million online viewers. Similarly, 8.1 million television viewers and 520,000 online viewers saw the season two debut (February 12, 2008) of *Jericho*. Google-owned YouTube—the king of online video, with 90 million visitors watching 5.9 billion videos per month—has signed on with Hollywood studios to host thousands of television episodes and movies on its site. Despite the popularity of many other sites that offer video online, almost twice as many online users are aware of YouTube than of Hulu.com. Further, Google is adding a captioning system to many of its videos that eventually will translate English audio into text in 51 different languages, thus expanding its market of non-English speakers and the hearing-impaired. The captioning systems will also allow users to search for particular text within videos.

It's not just shows originated for television that are big hits; the webisode is in full swing. Webisodes are not exactly like a television program—some series consist of only a few episodes, each of which may only be a few minutes long. Webisodes such as *The Guild*, *Sorority Forever*, and *Gemini Division* have a following of their own and are considered by many a new entertainment genre. Webisodes even have their own award ceremonies, plus of course fans, critics, and blogs.

So where do you find a webisode? YouTube is one such place, but many are actually produced by media companies such as Warner Bros., NBC, and Sony. Plus sites such as Strike.tv and Koldcast.tv host many webisodes. Some say there are as many as 3,000 webisodes online.

Yet despite all of the online viewing and webisodes, television is tops when it comes to entertainment. The typical U.S. viewer watches 142 hours of television monthly compared to 27 hours on the Internet. Even though Internet technology is a catalyst for changing the culture of television viewing, people love television, and so far it has proven resilient against online encroachment. There are many indications that television and the Internet will eventually develop a symbiotic relationship, making it unnecessary for a household to have both a traditional television set and a separate computer with Internet access.

FYI: Internet Video

Percent of U.S. Adults	006	00
Watched streaming video	28%	40%
Watched Internet TV	7%	24%
Downloaded/purchased shows/movies	5%	12%

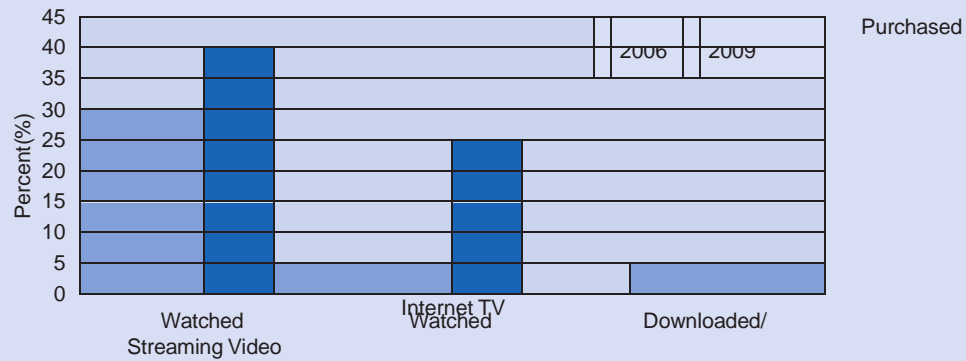


FIG. 5.

Source, "2009 Media and Communications Trends," 2009.

FYI: A Sampling of Radio and Television Online**Sites that Link to Thousands of Radio Station Web Sites**

Radio Locator	www.radio-locator.com
Radio Tower	www.radiotower.com
Web Radio	www.radio-directory.fm

Site That Links to Television Station Web Sites

Newslink	www.newslink.org/broad.html
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News Sites

ABC Television	www.abcnews.com
Citadel Media	www.abcradio.com
BBC	www.bbc.co.uk/radio
BBC Radio	www.bbc.co.uk/radio1
CBS Television	www.cbs.com
CBS SportsLine	www.cbs.sportsline.com/cbssports
CNN Interactive	www.cnn.com
ESPN SportsZone	espn.go.com
FOX	www.fox.com
National Public Radio	www.npr.org
MSNBC	www.msnbc.msn.com
Radio Free Europe	www.rferl.org
Voice of America	www.voa.gov

Television Station Sites

10News.com (San Diego)	www.thesandiegochannel.com
LasVegasNow	www.lasvegasnow.com

KPIX-TV	www.cbs5.com
WBIR-TV	www.wbir.com
WBOC-TV	www.wboc.com
WFLA-TV	www.wfla.com

Television Broadcast Networks Online

ABC	abc.go.com
CBS	www.cbs.com
NBC	nbc.com
FOX	www.fox.com
ION Television	www.iontelevision.com
The CW	www.cwtv.com
PBS	www.pbs.org

Television Cable Networks Online

Comedy Central	www.comcentral.com
Discovery Channel	www.discovery.com
SyFy	www.syfy.com
E! Online	http://www.eonline.com
ESPN	espn.go.com
HBO	www.hbo.com
The Learning Channel	tlc.discovery.com
Lifetime	www.lifetimetv.com
MTV Online	www.mtv.com
Nick-at-Nite	www.nickatnite.com

Online Television Listings

TV Guide Online	www.tvguide.com
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THE WEB AND TELEVISION NEWS

The web is an ideal venue for reporting the news, in that it eliminates the constraints of time and space. Most news organizations gather more information than they have the time to air or the space to print. But on the web, an unlimited amount of news can be presented. Stories don't have to be written to fill a small number of seconds or inches in a column. Online news is sometimes written as a summary with a link to an in-depth version as well as related stories. Hyperlinked stories give site visitors greater control over the news they receive by allowing them to select those reports they find most interesting.

The web also has other advantages in reporting news. Late-breaking news can be added almost instantaneously, and stories can be updated and amended as needed. For example, TMZ.com was the first news outlet to announce Michael Jackson's death. It even beat the Los Angeles coroner's office report to the media by six minutes. Critics claim that TMZ's posting was premature and it just got lucky that Jackson did indeed die, but the organization claims to have a large network of reliable sources. Moreover, online archives of yesterday's news are available to news junkies, who no longer have to worry about missing a television newscast. Additionally, web news is richly presented in audio, text, video, and graphic formats. Whereas radio is bound to audio, television to audio and video, and newspapers to text and graphics, the web has limitless options for presentation. Radio news on the web is presented visually, television news with text, and newspaper stories with audio. The characteristics that distinguish radio and television news presentation from one another fade on the web. Television news sites, such as ESPN.com and CNN.com feature so many video clips that they're almost like watching television—sans the television. Even print newspaper sites are reaching out to millions of visitors via video.

The web has become increasingly important to both television networks and affiliate stations as an alternative means of distributing around-the-clock and up-to-the-minute information. Television stations often work with Internet companies to help develop and maintain their online news presence. For example, Internet Broadcasting Systems (IBS) develops, operates, and sells advertising on television station web sites. IBS brings the latest news to station web sites through a partnership with CNN.

Online media are having a difficult time distinguishing themselves from their competitors; therefore, media sites are turning to brand awareness as a strategy to motivate consumers to select their site over another, such as cbsports.com over espn.go.com. The media aim to transfer their strong brand names, such as NBC and CNN, to the online environment. Internet experts speculate that early users of the Internet were not brand-sensitive but rather tried out many different sites and returned to the ones they liked the best, regardless of the site's originator. Users who are more web-tentative tend to be brand-loyal and stick to known sites. In other words, a web surfer who regularly watches CNN on television may be more likely to access cnn.com than another web news site.

Regardless of whether news is generated by radio or television, online content delivery is evolving as the web gains recognition as a distinct medium. Traditional ways of reporting and presentation are giving way to dynamic and interactive methods that hold promise for engaging and drawing new audiences to the web.

ELECTRONIC MEDIA AND BLOGS

Blogs are places where online intellectuals, the digital and politically elite, and everyday people meet to exchange ideas and discuss the latest developments about war and peace, the economy, politics, celebrities, and a myriad of other topics without the interference of traditional media. As such, bloggers are part of a new, tech-savvy crowd who often scoop the media giants and provide more insight into current events than can be found in the traditional media.

Blogging has exploded on the cyberscene. A new blogger jumps on the bandwagon every 40 seconds. Although estimates vary widely on the number of blogs (depending on how "blog" is defined), there were between 20,000 and 30,000 in the late 1990s, between 0.5 million and almost 3 million by the end of 2002, and 70 million blogs worldwide in 2007. By 2009, an astounding 133 million blogs inhabited cyberspace. Today's *blogosphere* (or collective world of blogs) is used mostly by white, highly educated, high-income, conservative, and libertarian males. But as more people are discovering this online world, it is attracting a more diverse audience.

As blogging proliferates, the media's power is being "redistributed into the hands of many" (Reynolds, 2002). Bloggers often scoop the traditional media and bring stories into the limelight that the media may otherwise have overlooked or buried. For example, in 2002 the power of blogs became apparent when Trent Lott's infamous glorification of Senator Strom Thurmond's 1948 desegregationist campaign was printed on page 6 of the *Washington Post* and omitted entirely by the *New York Times*. Only when bloggers homed in on the remark did the mainstream press run with the story. But it was pressure from the bloggers that eventually led to Lott's resignation.

Some media executives and journalists are concerned that blogs spread misinformation and blur fact and opinion. Also, mindful of losing readers and viewers and the need to counter unfettered blog information, they have set up their own blogs. Almost all major news sites contain several blogs, which are hosted by their journalists and pundits. But because media-hosted blog content is edited and fact-checked and is sometimes merely expanded print or on-air stories that may reflect the views of the organization, blog purists don't consider them true blogs. Blog purists claim that real blogs are those that provide a space for uninhibited public deliberation and an open marketplace of ideas where everyone's views are considered seriously. The downside to independent blogs is that they are not always subject to the strict editorial standards and source and fact checking that characterize the traditional media. A good deal of the information found on blogs is, in fact, not carefully scrutinized and may often be in error.

FYI: Blog Use Comparisons: 2006 and 2009

	Teens to 17 Years of Age	
	2006	2009
Have a blog	25%	14%
Comment on friend's blogs	75%	50%
	Adults over the Age of 18	
	2006	2009
Have a blog	7%	11%

Source: Irvine, 2010.

The media consider themselves the watchdogs of the government, and, now, blogs have taken on the role of watchdogs of both the government and the media. Like vultures, bloggers hover over media web sites, often criticizing and commenting on news stories and looking for errors even before the printed versions have hit the newsstands or the electronic versions have zipped through the airwaves. Bloggers immediately swoop into action when they read or hear of a controversial report or a story they deem as biased or factually incorrect. As one blogger commented, "This is the Internet and we can fact check your ass" (Reynolds, 2002). Bloggers are an "endless parade of experts . . . with Internet-style megaphones ready to pounce on errors." Conversely, traditional journalists claim that bloggers are really just "wannabe amateurs badly in need of some skills and some editors" (Rosenberg, 2002).

The perceptions of credibility of blogs vary. Some contend that information found on non-media-hosted blogs is not as credible as that found on media blogs or those posted by credentialed journalists, which are usually fact-checked. Yet others claim that blogs are credible precisely because the online world scrutinizes the information found there. Even mainstream journalists access blogs to look for tips and story ideas. Many online users consider blogs more credible than the traditional media, which they deem as biased, either to the left or to the right.

There's a blog out there for everyone, of every political persuasion and almost every interest. The personal blog is the earliest type of blog and is mostly used to communicate with family and friends. Many college students have blogs, on which they post photos, daily diaries, and other personal information to share with others, though social networks such as Facebook and MySpace seem to have taken over blogs as places to share personal and social information. The basic or general-topic blog is an open forum, in which anyone can read and participate in discussions about a myriad of topics. Some general-information blogs tackle many issues and topics whereas others may focus on specific topics such as dog breeding or gardening. Media/journalism blogs encompass those that post news stories and opinion and often focus on issues concerning journalism and the media. Bloggers are usually, but not always, journalists, and the blogs are often hosted by media organizations. A warblog is

concerned with terrorism, war, and conflict, often with a pro-military stance. A military blog (milblog) is a blog written by members or veterans of any branch of the U.S. armed services, posting directly from the front lines. A political blog primarily comments on politics and often takes a clearly stated political bias. A corporate blog is published and used by an organization to reach its organizational goals. These are just some of the major types of blogs—many more types have been identified.

Moving beyond the typical blog are *videoblogs*, also known as *vlogs*. Vlogs are kind of mini-video documentaries. Commentaries, rants, and raves are all presented as full-motion video. Anyone equipped with a digital video camera and special software can produce his or her own vlog.



FIG. 5.4 Anyone can write a blog. Photo courtesy iStockphoto. ©AlexValent, image #3220999.

ZOOM IN 5.6

See demo vlogs at:

www.archive.org/details/vlogs

www.livevideo.com/media/tag/vlogs.aspx

ZOOM IN 5.7

Explore a blog by reading the comments and following the links to other information:

globeofblogs.com

www.bloghop.com

www.bloggingfusion.com

www.google.com/press/blogs/directory.html

With so much information available over blogs, it is understandable that people may prefer connecting to a source on which they're encouraged to talk to rather than wait for television or radio to talk at them. If bloggers continue to scoop the traditional media, provide access to in-depth commentary and diverse viewpoints, and point out media errors, they may become even more influential in shaping cultural ideology. What role vlogs will take in the world of news remains to be seen, but they have the potential to tackle television news especially among blog readers who dislike or distrust traditional media.

SEE IT LATER

The Internet is changing so rapidly that what is written here in the "See It Later" section of this chapter may very well be more appropriate for "See It Now" section by the time the book is published. It's not that the publishing process is slow—it's more that digital technology and our digital culture are moving at lightning speed.

The traditional media are struggling to keep up with the Internet, but they know they must or they will lose their audience. As radio listeners and television viewers come to prefer online delivery the media must offer online content. But just putting up content is not enough; the media have to figure out how to survive in the digital age. The following prognostications and suggestions for online success have been culled from various speeches and articles by media experts.

Radio has survived broadcast television, cable television, records, cassettes, CDs, and music videos, but can it survive the Internet? Even though the audience for over-the-air radio is still huge and U.S. listeners still spend about 1.5 hours per day listening, broadcasters are not doing very well financially. As advertisers are moving online, so must broadcasters. The future is "broadcasting to an audience of one" (Internet is Future of Radio, 2009). Radio must take full advantage of digital technology that allows users to be their own programmers. MP3 players and computers are merely new ways to deliver audio and should not be viewed as the radio receiver's enemies, but rather as ways to reach an audience. Indeed, those who listen online are more apt to tune in to over-the-air radio, which indicates that radio listeners are not abandoning radio but are merely turning to their online counterparts.

Because about 45 percent of all radio listening occurs in vehicles, broadcast radio has pretty much been the only way to tune in. Cassettes, MP3 players, and satellite radio compete for drivers' ears as well. But now, web radio is calling shotgun. It's still not easy to connect to web-streamed audio, but it can be done with an Internet-connected smartphone that's hooked through your car speakers and by installing audio software, such as Pandora or Slacker. But too much web listening runs the risk of using up your monthly cell phone gigabyte quota. In-car web radio is still years away from popular use, if it even ever catches on. Something better could come along in the meantime.

Since Mosaic hit the market in 1993, there has been much talk about the potential for viewing television online.

Now the talk is over, and most programs can be viewed online. It used to be that television was a family or group activity where everyone would squeeze together on the sofa and sit back and watch and make comments about the show. As the number of multiple-television households grew and with the proliferation of cable channels, television viewing became more of a solo activity and more individualized. But still, viewing programs as they aired gave us a something to talk about the next day. The Internet and other video delivery systems are contributing to a culture in which a shared television viewing experience may become an activity of the past.

Network television must find a way to retain an audience and turn a profit. Offering full episodes with commercials online and available for downloading on mobile devices are positive steps in attracting an audience and revenue. Perhaps offering more behind-the-scenes clips, unedited news, and interview video and making it easier for viewers to help create news stories would make networks, and stations, online sites more engaging and interesting. Perhaps instead of thinking of television as an imperiled medium, it should be thought of as one with new and exciting ways of delivering content.

The younger web-savvy generation enjoys interacting online and feeling like they're part of the action. Blogs and vlogs are instrumental in creating the interactive culture that marks the online world. Users are no longer content to just be receivers of the news—they want to create the news and report on events. During the 2009 protests in Iran challenging the election results, a young woman, Neda Agha-Soltan, was killed. She became a symbol of unrest as millions of viewers watched in horror as her death was captured on cell phones and video cameras and posted on YouTube as it happened. The day Michael Jackson died, passersby videoed the EMTs putting him into the ambulance and his arrival at the hospital before the major news outlets were on the scene. And because news travels in seconds across the Internet, thousands of mourners gathered at the hospital within minutes of his death. These are examples of how individuals became reporters rather than just viewers. The difficulty for the television networks is verifying the user generated content—anyone can shoot a fake video. Television news organizations need to strategize how to deal with these types of situations and set information policies regarding privacy, surveillance, ethical standards, verifying sources, and protecting anonymity.

FYI: Video Gone Wild

Watch out when posting video on YouTube. If you'll be embarrassed if others see it, don't do it. Look what happened to the two Domino's Pizza workers who stupidly tainted food they were preparing for delivery and captured it all on video. The workers claim they were just fooling around, but once the video hit YouTube, disgusted viewers spread the word all over the Internet.

In the end, the workers were fired and the pair was arrested. Additionally, Domino's reputation was harmed and it filed civil charges against the former employees.

As laptops once freed us from our desktop computers, mobile connectivity by cell phone and other handheld devices hold promise to unfetter us from our laptops. Mobile devices are quickly becoming the primary way to connect to the Internet. Their portability and low cost make them the optimal ways to stay socially in touch and linked to online, media, and real worlds.

SUMMARY

The history of the Internet is longer than most people think. It dates back to the 1960s, when scientists were experimenting with a new way to share information and keep connected in times of crisis. In its early days, the Internet was largely limited to communicating military, academic, and scientific research and was accessed by using complicated commands. In 1993, the first web browser, Mosaic, came onto the scene and the Internet quickly caught the public's attention. Since then, it has become the most quickly adopted new medium in history.

Without a doubt, the Internet has changed our lives tremendously. We no longer have to passively sit and absorb whatever news and information the traditional media want to send our way but we can select what we want to know. Online technologies have sprouted new ways of gaining news and information and having an individual voice. Despite these unique qualities, the Internet also has many of the same properties as the traditional print and broadcast media. It delivers audio, video, text, and graphics in one package.

Not only has the Internet changed the way we receive and provide information, but it is also altering our traditional media use behaviors. Millions of people around the world log onto the Internet on a regular basis. For some, the Internet will always be a supplement to radio

and television, but for others, the Internet may become the medium they turn to first for news, information, and entertainment.

Online radio delivery has attracted many users who prefer clicking a button to hear their favorite audio over tuning in to an over-the-air station. For audio providers, online radio is relatively easy to set up and inexpensive to maintain. Given all this, cyber radio is the ideal medium for those who want to reach a global audience. People have been enamored with television and the act of watching television since the 1940s, which means it will be hard, if not impossible, to tear them away from this medium. For people to abandon television for the Internet, it will have to resemble television in how it's used, in program quality, and in content delivery.

Clearly, the Internet is quickly catching up with radio and television when it comes to news delivery. In many ways, the Internet has surpassed radio and television when it comes to providing in-depth news. The web is not constrained by time and space, as are the traditional media. News can be posted immediately and updated continuously, as the situation warrants. Moreover, weblogs and vlogs redistribute news and information delivery from established media into the hands of everyday people.

Broadcast radio and television networks and stations are competing among and between themselves and with the Internet, often with their own online counterparts. Television and radio must compete with the web for a fragmented audience and precious advertising dollars. The traditional media are concentrating their efforts on designing web sites that will draw viewers away from their online competitors. But at the same time, they have to be sure that they don't lure viewers to the web at the expense of their



FIG. 5.5 The Internet is a combination of television, film, radio, newspaper, magazines, and other media. *Photo courtesy iStock-photo. ©Petrovich9, image #6030817.*

over-the-air fare. Even though research differs on whether the Internet is taking time away from radio and television, even a short amount of time spent online is time taken away from the "old-line media" (Dizard, 2000).

The Internet is still a relatively new medium, and so no one knows for sure what form it will end up taking as it

keeps changing and adapting to technological innovations and diverse social and cultural needs. But what we do know is that it has had an enormous impact on the radio and television industries. If the prognosticators are right, the web will eventually merge with radio and television, offering both conventional radio and television fare and web-based content through a single device.