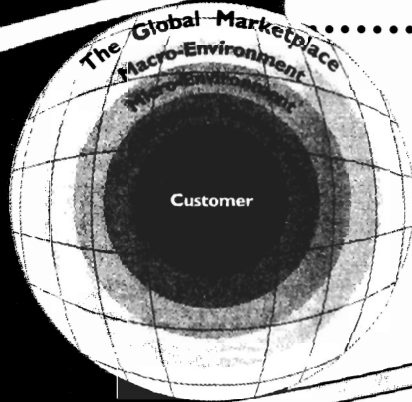


## CASE 3 I

# America Online



*This case was prepared by Natalya V. Delcours, Lawrence R. Jauch, and John L. Scott of Northeast Louisiana University.*

America Online, Inc. (NYSE: AOL), was founded in 1985. This media company, with headquarters in Dulles, Virginia, has more than 10 million members and currently operates in the United States, Canada, the United Kingdom, France, and Germany. AOL provides on-line services including electronic mail, on-line conferencing, Internet access, news, magazines, sports, weather, stock quotes, mutual fund transactions, software files, games, computing support, and on-line classes.

According to the company, its mission is "to lead the development of a new interactive medium that eliminates traditional boundaries between people and places to create a new kind of interactive global community that holds the potential to change the way people obtain information, com-

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• municate with one another, buy products and services, and learn."

• To accomplish this mission, the company's strategy is to continue investment in the growth of its subscriber base, pursue related business opportunities often through joint ventures and acquisitions, provide a full range of interactive services, and maintain technological flexibility.

• AOL's rapid growth and community orientation have made it the most popular, easiest, and well-known way for consumers to get on-line. In December 1996, AOL had 8.5 million member sessions a day, 7 million e-mails sent to 12 million recipients a day, and it accounted for approximately \$750,000 per day in merchandise transactions.

• However, AOL has not been trouble-free. On August 7, 1996, AOL threw 6 million subscribers off line for 19 hours due to software problems. America Online revealed that the glitch resulted from an error made by its working subsidiary, ANS Co., in reconfiguring software and from a bug in router

software. The error cost AOL \$3 million in rebates. On January 8, 1997, America Online suffered a partial outage that forced it to shut down half its system for 4 hours to find a problem. The problem was with an interface in a router device, which manages the flow of data in the network. The outage drew front-page headlines around the world, as millions of users were unable to access electronic mail, the Internet, and a variety of services and publications on-line for nearly a day.

## AMERICA ONLINE COMPANY PROFILE

America Online emerged from a firm founded in the early 1980s as Control Video Corp., aimed to create an on-line service that specialized in games. It failed to meet strong competition from the Apple II and Commodore 64. Control Video was reorganized as Quantum Computer Services and became a custom developer of on-line services for other companies. Over time, Quantum managed to persuade Tandy Corp. and Apple Computers to offer a new service called Applelink Personal Edition. At the last minute, Apple withdrew from the deal and left Quantum holding a lot of software it had developed expressly for Applelink. In 1989, Quantum was only scraping by, and it did not have much money for splashy ad campaigns to attract computer users to its new service—America Online. So it came on the market with a unique approach, which was to blanket the countryside with diskettes containing America Online software. As the years went by, the company changed the way it accounted for the costs of acquiring subscribers and its pricing plans, but America Online, Inc., had never actually made any money in its entire history. At the same time, America Online had positioned itself apart from traditional print and television companies as the first “digital media company.” Similar to television, the company produces digital content and distributes it digitally and allows a customer to interact digitally.

### AOL Organization

AOL Corporation now oversees the operations of several subsidiaries and three divisions: AOL Networks, ANS Access, and AOL Studios. The corpora-

tion comprises the core business functions of finance, human resources, legal affairs, corporate communications, corporate development, and technology. AOL Technologies is responsible for delivering research, development, network/data-center operations, and member support to the other America Online divisions, technology licensees, and joint-venture partners. The group is also responsible for support functions—including technical support, billing, and sales.

AOL Networks is responsible for extending the AOL brand into the market, developing new revenue streams, advertising, and on-line transactions. AOL Networks is led by Robert Pittman, president, formerly managing partner and CEO of Century 21 and cofounder of MTV Network.

ANS Access is responsible for the telecommunications network. The network consists of more than 160,000 modems connecting 472 cities in the United States and 152 cities internationally. Nearly 85 percent of the American population can dial into AOLNet on a local number. For America Online’s members who travel, GlobalNet offers access in approximately 230 additional cities in 83 countries. The ANS technical team is responsible for architecture, design, development, installation, management, and maintenance of hardware and software for the nationwide corporate data networks and Internet backbone by which communications take place.

AOL Studios, formerly AOL Productions, runs AOL’s innovative chat (iChatco), games (INN), local (Digital City), and independent (Greenhouse) programming properties. AOL Studios is the newest division in AOL. It is working on development of leading-edge technology for broadband and mid-band distribution, interactive brands that can be extended into other media properties such as TV and radio, and managing joint ventures with companies including Time-Warner and CapCities/ABC. WorldPlay, built from ImagiNation Network entertainment, is the provider of computer on-line games for AOL. ImagiNation Network was founded in 1991 and became an independent subsidiary of AOL in 1996.

Digital City provides local programming, news, services, chat rooms, and commerce to AOL members as well as to the Internet at large. To date, Digital City has been launched nationally in Washington, D.C., Boston, Philadelphia, Atlanta, San Francisco,

and Los Angeles. Digital City planned to expand to over 40 cities in 1997. Digital City, Inc., is owned by Digital City LP. AOL owns a majority interest in that entity, and the Tribune Company owns the remaining interest.

Advanced CO+RE Systems, Inc., a wholly owned subsidiary of America Online, provides network services for AOLnet, together with Sprint Corporation and BBN Corporation. Through this subsidiary, America Online designs, develops, and operates high-performance wide-area networks for business, research, education, and government organizations.

In February 1996, AOL merged with the Johnson-Grace Company, a leading developer of compression technology and multimedia development and delivery tools. Using the Johnson-Grace technology, America Online is able to deliver the data-intensive graphics and audio and video capabilities using narrow-band technologies, even over the slower-speed modems currently used by most AOL members.

2Market, Inc., is a joint venture of America Online, Apple Computer, and Medior. It provides retail catalog shopping CD-ROMs that include on-line ordering capabilities. In 1997, America Online, along with Netscape Communications and Disney's ABC unit, announced plans to launch ABCNEWS.com, a 24-hour news service.

Since the beginning of 1995, the company also acquired Advanced Network and Services, Inc. (ANS), Ubique, Ltd., Navisoft, Inc., Global Network Navigator, Inc. (GNN), BookLink Technologies, Inc., and Redgate Communications Corporation. ANS was used to build the AOLnet telephone network and has now been traded to WorldCom in return for CompuServe. (This transaction is discussed more fully later.) Ubique, Ltd., was an Israeli company that developed unique and personable ways to interact over the Internet, notably Virtual Places. Navisoft, Inc., made software such as that which allowed AOL's users to author Web pages. GNN was AOL's flat-rate full Web service provider. However, AOL's flat-rate pricing scheme rendered GNN redundant. BookLink Technologies, Inc., produced software to browse the Web. Redgate Communications Corporation was a multimedia services corporation with a specialization in using multimedia in marketing.

AOL is also planning to go in to the bookselling

business in a joint venture with Barnes & Noble, but the timing is still uncertain.

### **AOL Marketing**

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The goals of the firm's consumer marketing programs are to increase the general visibility of America Online and to make it easy for customers to experiment with and subscribe to its services. AOL attracts new subscribers through independent marketing programs such as direct mail, disk inserts and inserts in publications, advertising, and a variety of comarketing efforts. The company has entered into comarketing agreements with numerous personal computer hardware, software, and peripheral production companies, as well as with certain of its media partners. These companies bundle America Online software with their products and cater to the needs of a specific audience.

America Online also has been expanding into business-to-business markets, using AOL's network to provide customized network solutions to both individual businesses and professional communities and industries. These private AOLs (the PAOLs) offer the ease of use America Online is known for, as well as customized features and functionality accessible only by preauthorized users, access to the fleet of AOL distribution platforms, secure communications, and information. The company offers these products using a direct salesforce and direct marketing and through resellers and system integrators.

America Online uses specialized retention programs designed to increase customer loyalty and satisfaction and to maximize customer subscription life. These retention programs include regularly scheduled on-line events and conferences; the regular addition of new content, services, and software programs; and on-line promotions of upcoming on-line events and new features. The firm also provides a variety of support mechanisms such as on-line technical support and telephone support services.

In May 1995, America Online introduced its Web browser, which provides integrated World Wide Web access within the AOL services. The integrated approach allows the user to seamlessly use the full suite of America Online features, including chat room, e-mail gateways and mailing

lists, File Transfer Protocol, USENET newsgroups, WAIS, and Gopher.

In the summer of 1997, America Online planned to offer its 8 million members a three-dimensional gaming world, CyberPark. The company will try to compete with such heavyweights as Microsoft, the Internet Gaming Zone site, and MCI, which will launch a service in 1997 that allows computer users to play their favorite CD-ROM games. The projected earnings are expected to reach \$127 million in 1997, but there are still some technical problems to overcome and the uncertainty of how much to charge future users.

America Online has included international market expansion in its strategy to gain competitive advantage. In April 1995, AOL entered into a joint venture with Bertelsmann, one of the world's largest media companies, to offer interactive services in Europe: Germany (November 1995), the United Kingdom (January 1996), and France (March 1996). Bertelsmann agreed to contribute up to \$100 million to fund the launch of the European services, provided access to its book and music club membership base of over 30 million, and offered its publishing content to the joint venture on a most favored customer basis. In addition, Bertelsmann acquired approximately a 5 percent interest in America Online and designated a member of the company's board of directors. AOL contributed interactive technology and management expertise, proprietary software licenses and development services, and staff training and technical support in order to develop, test, and launch the interactive services in Europe. Subscribers to the European services enjoy access to America Online's services in the United States, and U.S. subscribers enjoy access to the European services.

AOL Canada, launched in January 1996, features local content and services. In October 1996, AOL Canada offered Canadian members software, thirteen local channels, billing in Canadian dollars, e-mail, message boards, and easy access to the Internet through a Web browser. AOL Canada's key partners include Citytv, an internationally renowned broadcaster and program producer; MuchMusic, Canada's first national music television channel; *Shift Magazine*, Canada's hottest publication in media; Intuit Canada, makers of the world's leading personal finance software, Quicken; and Southam New Media, a wholly owned subsidiary of Southam, Inc., Canada's largest news organization.

In May 1996, America Online announced a partnership with Mitsui & Co., one of the world's largest international trading companies, and Nikkei, one of Japan's leading media companies with respected business and computer publications. The joint venture consists of Mitsui & Co. owning 40 percent, Nikkei 10 percent, and AOL 50 percent. Japanese partners contributed more than 120 years of experience and credibility in the Japanese market, a strong management team, and \$56 million to fund the launch of the Japanese service. America Online brings to the venture its ability to develop, manage, and execute interactive on-line services in the United States, Europe, and Canada.

America Online's wildly successful marketing ploy of flat-rate pricing in the United States turned out to contribute to AOL's latest problem. About 75 percent of AOL's customers took the flat-rate offer. As a result, total daily AOL customer use soared from 1.6 million hours on-line in October 1996 to more than 4 million hours in January 1997. (These problems are described more fully later in this case.)

### Meeting Customer Needs

The company provides tools to its members so that they can control their child's or teen's experience on-line without cramping the adults who enjoy using AOL's services to talk to other adults. Parental controls can block or limit the use of chat, instant messages, e-mail, binary files, newsgroups, or the Web. Different on-line areas support different values. For instance:

- *ACLU Forum*: This encourages lively yet responsible debate. Illegal activities (harassment, distribution of illegal materials) are not permitted in this area.
- *Womens' Network*: This is a women-friendly and safe space for chatting, learning, teaching, and networking, but men are still welcome to join the communication.
- *Christian Chat Room*: This allows fellowship among Christian members. In this space, proselytizing is forbidden.
- *Kids Only*: This gives children their own space on-line for searching help with homework, sending e-mail, and hanging out in chat rooms. Parental control can be set up in this area.

The average adult spends about an hour on-line, but the average kid spends three. Currently, there are 4.1 million kids surfing the Net. By 2000, it is expected that there will be 19.2 million. Kids, who spent \$307 million in 1996 on on-line services, will spend \$1.8 billion by 2002, and this is why media and Web giants are scrambling to offer new kid-friendly sites. Fox TV features cartoons and kid shows. Disney gave AOL first crack at hosting Daily Blast, which offers kids games, comics, and stories for \$4.95 per month or \$39.95 per year. "But," says Rob Jennings, vice president for programming for AOL networks, "We felt we had a good mix already." Yahoo!igans! offers kids-friendly Web sites for free. AOL still has partnerships with other media giants such as Disney rival Viacom, Inc.'s Nickelodeon unit for other offerings.

Since 1994, AOL has offered a Kids Only area featuring homework help, games, and on-line magazines, as well as the usual fare of software, games, and chat rooms. The area gets about 1 million 8- to 12-year-old visitors monthly.

In April 1996, America Online began to see the effect of seasonality in both member acquisitions and in the amount of time spent by customers using its services. The company expects that member acquisition is to be highest in the second and third fiscal quarters, when sales of new computers and computer software are highest due to holiday seasons (AOL's fiscal year ends June 30.) Customer usage is expected to be lower in the summer months, due largely to extended daylight hours and competing outdoor leisure activities.

### **AOL Employees**

As of June 30, 1996, America Online had 5828 employees, including 1058 in software and content development, 3271 in customer support, 199 in marketing, 1099 in operations, and 291 in corporate operations. None of AOL's employees is represented by a labor union, and America Online has never experienced a work stoppage.

AOL employs numerous part-time workers around the world known as "remote staff." These are volunteer staff who develop content and provide both marketing and operations functions. Remote staff write informational articles, produce graphics, host chat rooms, provide technical assistance, and fulfill various support functions. Remote staff duties vary. Some may work as little as 10

hours per week or more than 40 hours per week. AOL's remote staff is compensated for these services with "community leader accounts"—a membership for which the staff members are not charged. Relatively few remote staff members are paid as independent contractors.

AOL's flat-rate pricing plan had a serious impact on its remote staff. Prior to the flat rate, members paid about \$3 per hour of on-line access. Hence a "free" account would have a monthly value of approximately \$300 for a staff member who spent 3 hours per day on-line.

After the flat-rate pricing plan, this account's value fell to \$20. This enormous decrease in incentives led many remote staff members to resign their positions. The positions hardest hit were those for which the job pressures were highest, including AOL's guides and Techlive. Guides served to police AOL's chat rooms and to assist users with whom they came in contact. Techlive assisted users with computer problems, computer use, and navigation of AOL. Techlive is now buried beneath menu options that do not hint that real-time on-line help is available.

### **AOL Finance**

Exhibits A and B present the financial statements for fiscal years 1995 and 1996. About 90 percent of the firm's revenues are generated from on-line subscription fees. AOL's other revenues are generated from sales of merchandise, data network services, on-line transactions and advertising, marketing and production services, and development and licensing fees. The increase of over \$600 million in service revenues from 1995 to 1996 was attributed primarily to a 93 percent increase in AOL subscribers.

This is expected to undergo radical change, due to the flat rate pricing, with much less revenue coming from subscriber fees, which AOL hopes to make up by increases in the other revenue streams.

Cost of revenue, which includes network-related costs, consists of data and voice communication costs and costs associated with operating the data centers and providing customer support. These increased almost \$400 million from 1995 to 1996. This increase was related to a growth of data communication costs, customer support costs, and royalties paid to information and service providers.

For fiscal year 1996, marketing expenses in-

**EXHIBIT A****Income Statement (Year Ended June 30; Amounts in Thousands, Except per Share Data)**

	1997	1996	1995
<b>Revenues</b>			
On-line service revenues	\$1,429,445	\$991,656	\$344,309
Other revenues	255,783	102,198	49,981
Total revenues	1,685,228	1,093,854	394,290
<b>Costs and expenses</b>			
Cost of revenues	1,040,762	638,025	232,318
Marketing	409,260	212,710	77,064
Write-off of deferred subscriber acquisition costs	385,221	—	—
Product development	58,208	43,164	11,669
General and administrative	193,537	110,653	42,700
Acquired research and development	—	16,981	50,335
Amortization of goodwill	6,549	7,078	1,653
Restructuring charge	48,627	—	—
Contract termination charge	24,506	—	—
Settlement charge	24,204	—	—
Total costs and expenses	2,190,874	1,028,611	415,739
Income (loss) from operations	(505,646)	65,243	(21,449)
Other income (expense), net	6,299	(2,056)	3,074
Merger expenses	—	(848)	(2,207)
Income (loss) before provision for income taxes	(499,347)	62,339	(20,582)
Provision for income taxes	—	(32,523)	(15,169)
Net income (loss)	\$ (499,347)	\$ 29,816	\$ (35,751)
<b>Earnings (loss) per share</b>			
Net income (loss)	\$(5.22)	\$0.28	\$(0.51)
Weighted average shares outstanding	95,607	108,097	69,550

creased 176 percent over fiscal year 1995. This was attributed primarily to an increase in the size and number of marketing programs designed to expand the subscriber base.

Product development costs include research and development, other product development, and the amortization of software. For fiscal year 1996, these costs increased 277 percent over fiscal year 1995 and increased as a percentage of total revenues from 3.6 to 4.9 percent. The increases in product development costs were attributable primarily to an increase in the number of technical employees. Product development costs, before capitalization and amortization, increased by 242 percent.

For fiscal year 1996, general and administrative costs increased 159 percent over fiscal year 1995

and decreased as a percentage of total revenues from 10.8 to 10.1 percent. The increase in general and administrative costs was related to higher personnel, office, and travel expenses related to an increase in the number of employees. The decrease in general and administrative costs as a percentage of total revenues was a result of the substantial growth in revenues, which more than offset the additional general and administrative costs, combined with the semivariable nature of many of the general and administrative costs.

Acquired research and development costs relate to in-process research and development purchased with the acquisition of Ubiq, Ltd., in September 1995. Acquired research and development costs relate to in-process research and devel-

**EXHIBIT B**
**Consolidated Balance Sheet (June 30; Amounts in Thousands; Except per Share Data)**

	1997	1996	1995
<b>Assets</b>			
<b>Current assets</b>			
Cash and cash equivalents	\$124,340	\$118,421	\$ 45,877
Short-term investments	268	10,712	18,672
Trade accounts receivable	65,306	49,342	32,176
Other receivables	26,093	23,271	11,381
Prepaid expenses and other current assets	<u>107,466</u>	<u>65,290</u>	<u>25,527</u>
Total current assets	323,473	267,036	133,633
Property and equipment at cost, net	233,129	111,090	70,919
<b>Other assets</b>			
Restricted cash	50,000	—	—
Product development costs, net	72,498	44,330	18,949
Deferred subscriber acquisition costs, net	—	314,181	77,229
License rights, net	16,777	4,947	5,579
Other assets	84,618	29,607	9,121
Deferred income taxes	24,410	135,872	35,627
Goodwill, net	41,783	51,691	54,356
Total assets	<u>\$846,688</u>	<u>\$958,754</u>	<u>\$405,413</u>
<b>Liabilities and stockholders' equity</b>			
<b>Current liabilities</b>			
Trade accounts payable	\$ 69,703	\$105,904	\$ 84,640
Other accrued expenses and liabilities	297,298	127,876	23,509
Deferred revenue	166,007	37,950	20,021
Accrued personnel costs	20,008	15,719	2,863
Current portion of long-term debt	<u>1,454</u>	<u>2,435</u>	<u>2,329</u>
Total current liabilities	554,470	289,884	133,362
<b>Long-term liabilities</b>			
Notes payable	50,000	19,306	17,369
Deferred income taxes	24,410	135,872	35,627
Deferred revenue	86,040	—	—
Minority interests	2,674	22	—
Other liabilities	<u>1,060</u>	<u>1,168</u>	<u>2,243</u>
Total liabilities	\$718,654	\$446,252	\$188,601
<b>Stockholders' equity</b>			
Preferred stock, \$.01 par value; 5,000,000 shares authorized, 1,000 shares issued and outstanding at June 30, 1997 and 1996	1	1	—
Common stock, \$.01 par value; 300,000,000 and 100,000,000 shares authorized, 100,188,971 and 92,626,000 shares issued and outstanding at June 30, 1997 and 1996, respectively	1,002	926	767
Unrealized gain on available-for-sale securities	16,924	—	—
Additional paid-in capital	617,221	519,342	252,668
Accumulated deficit	(507,114)	(7,767)	(36,623)
Total stockholders' equity	<u>128,034</u>	<u>512,502</u>	<u>216,812</u>
Total liabilities and equity	<u>\$846,688</u>	<u>\$958,754</u>	<u>\$405,413</u>

opment purchased as part of the acquisitions of BookLink Technologies, Inc. (Booklink), and Navisoft, Inc. (Navisoft).

The amortization of goodwill increase relates primarily to America Online's fiscal 1995 acquisitions of Advanced Network & Services, Inc., and Global Network Navigator, Inc., which resulted in approximately \$56 million of goodwill. The goodwill related to these acquisitions is being amortized on a straight-line basis over periods ranging from 5 to 10 years. The increase in amortization of goodwill results from a full year of goodwill recognized in fiscal year 1996 compared with only a partial year of goodwill recognized in fiscal year 1995.

Other income (expenses) consists of interest expense and nonoperating charges net of investment income and nonoperating gains. The change in other income (expenses) was attributed to the \$8 million settlement of a class action lawsuit partially offset by an increase in investment income.

Nonrecurring merger expenses totaling \$848,000 were recognized in fiscal year 1996 in connection with the merger of America Online with Johnson-Grace Company. Nonrecurring merger expenses totaling \$2,207,000 were recognized in fiscal year 1995 in connection with the mergers of AOL with Redgate Communications Corporation, Wide Area Information Servers, Inc., and Medior, Inc.

In December 1993, the company completed a public stock offering of 8 million shares of common stock, which generated net cash proceeds of approximately \$62.7 million. In April 1995, the joint venture with Bertelsmann AG to offer interactive on-line services in Europe, netted approximately \$54 million through the sale of approximately 5 percent of its common stock to Bertelsmann. In October 1995, AOL completed a public offering of 4,963,266 shares of common stock, which generated net cash proceeds of approximately \$139.5 million. In May 1996, America Online received approximately \$28 million through the sale of convertible preferred stock to Mitsui in its joint venture with Mitsui & Co., Ltd., and Nohon Keizai Shimbun, Inc., to offer interactive on-line services in Japan. The preferred stock has an aggregate liquidation preference of approximately \$28 million and accrues dividends at a rate of 4 percent per annum. Accrued dividends can be paid in the form of additional shares of preferred stock. Exhibit C

## EXHIBIT C

### Market Price of Common Stock

For the Quarter Ended	High	Low
September 30, 1994	\$10.28	\$ 6.88
December 31, 1994	14.63	7.47
March 31, 1995	23.69	12.31
June 30, 1995	24.06	16.75
September 30, 1995	37.25	21.38
December 31, 1995	46.25	28.25
March 31, 1996	60.00	32.75
June 30, 1996	71.00	36.63
September 30, 1996	37.75	34.65
December 31, 1996	33.38	32.25

shows the history of share prices of AOL's common stock.

America Online has financed its operations through cash generated from operations and the sale of its capital stock. AOL has financed its investments in facilities and telecommunications equipment principally through leasing. American Online leases the majority of its facilities and equipment under noncancelable operating leases. The communications network requires a substantial investment in telecommunications equipment, which America Online plans to finance principally through leasing. The company has never declared, nor has it paid, any cash dividends on its common stock. AOL currently intends to retain its earnings to finance future growth.

The company uses its working capital to finance ongoing operations and to fund marketing and content programs and the development of its products and services. American Online plans to continue to invest in computing and support infrastructure. Additionally, AOL expects to use a portion of its cash for the acquisition and subsequent funding of technologies, products, or businesses complementary to the company's current business.

For example, America Online is investing in the development of alternative technologies to deliver its services. AOL has entered into agreements with several manufacturers of personal digital assistants

(PDAs are low-powered, hand-held computers), including Sony, Motorola, Tandy, and Casio, to bundle a palmtop edition of America Online's client software with their PDAs. AOL is participating in early cable trials using cable as the conduit into PCs and has announced future support of ISDN, which allows digital transmission, as opposed to the analog transmission of telephones, and wireless, similar to cell phone and satellite transmission. By the time that cable modems are poised for market penetration, a new generation of competitive telephone modems may be available. In the paging market, AOL has entered into agreements with AT&T Wireless Services and MobileMedia to provide their paging customers who subscribe to AOL with mobile access to certain America Online services.

## AOL'S ENVIRONMENT

AOL is subject to federal and state regulations applicable to business in general. However, America Online must keep up with changes in the regulatory environment relating to telecommunications and the media. Additional legislative proposals from international, federal, and state government bodies in the areas of content regulations, intellectual property, privacy rights, and state tax issues could impose additional regulations and obligations on all on-line service providers. For a long time, such companies as AT&T, Western Union, and RCA dominated the telecommunications industry. The courts deregulated the telephone industry in the 1980s. Although technology and market development made passage of new telecommunications legislation inevitable, it took about 10 years to frame it. Even though the Telecommunications Reform Act of 1996 meant to remove many of the regulatory barriers and make it easier for telecom companies to invest in the information superhighway, so far it has made little difference.

The Department of Commerce and the U.S. Trade Representative have pushed the World Trade Organization to open up the telecom sector to more service and equipment competition. As a result of trade negotiations in Singapore, tariffs on many telecommunications products and services will be reduced, with great potential benefit to U.S. firms. Additional talks were under way in Switzerland in 1997 that may permit U.S. telecommunica-

tions companies to compete on equal footing with providers in Europe and elsewhere.

Telephone companies are collecting high revenues as computer and on-line services expand. One study found that local carriers collected revenues totaling \$1.4 billion in 1995 from second phone lines used mainly for Net links while spending only \$245 million to upgrade their networks for the additional usage. Phone companies experienced 8 to 9 percent profit growth in 1996 since second phone line installations at homes grew 25 percent. Both local carriers and on-line service providers agree that there is a necessity to build higher-capacity networks to satisfy the increasing demand for public phone networks to meet the growing trend in cybersurfing.

The future of technology is difficult to predict but can affect AOL's future strategy. Some speculate that interactive TV is going to be replaced by network computers (such as those from Sun). Some argue that Internet connections should be available to people who want to use them and that public monies should be provided to ensure access for all. There is a growing place for satellite and fiber in the new communication system. Technology trends are sometimes born of social change. Here are some of the most important trends to watch for the next 5 years:

- The world phone could be a satellite wireless phone that uses digital technology. A combination of Global System for Mobilization (GSM) and satellite technologies could be the model for the world phone. Pioneers such as Wildfire Communications, Lucent Technologies, Dialogic, and VDOnet are among hundreds of alternative carriers that try to unite PCs, phone, e-mail, fax, and video into a seamless fabric. They are designing software that sends phone calls around the world on the Internet very cheaply. The line dividing computers and telephones, voice and data is blurring. Building on the union of data networks and computers, the Internet has become the new global communications infrastructure for businesses.
- Personal communication systems (PCSs) could broadside local telecom carriers. Projections are that local exchange carriers must brace for a loss of 35 percent of high-margin business customers and 25 percent or more of their residen-

tial shares to PCS providers. Mobile subscribers could represent 17 percent of traditional wire-line carrier business by 2010. VocalTec, Ltd., leading maker of Internet telephony products, recently broadened the appeal by introducing gateways that connect the Internet to standard phone systems—allowing PC users to call non-PC users on their phones, and vice versa. VocalTec claims it saves \$10,000 a month on phone bills between the company's New Jersey and Israeli offices.

- **Wireless convergence.** Commercial mobile wireless will include mobile satellite, and satellite communication will overlap coverage and mobility with cellular/PCS. Cordless telephony will play major roles. Several years ago, Microsoft Corp. and Novell, Inc., tried to apply computer-telephony integration technology to any desktop by creating competing standards for connecting phone systems to PC networks. But the products, TAPI and TSAPI, which allowed desktop computer users to receive and manage phone calls through their PCs, went nowhere. Now, a wave of products built on TAPI and TSAPI that work with standard telecom equipment is hitting the market. Users can select a handful of names from a database and command the phone switch to set up a conference call with all of them. Pacific Bell is testing a sophisticated messaging service on 300 wireless-phone customers in San Diego. It answers incoming phone calls, screens them, and automatically routes them to wherever you are—a conference room, your home office, or a shopping mall. For a richer media experience, many companies are concentrating on desktop videoconferencing products from Intel, C-Phone, and VDOnet, among others. These products are very cost-efficient and price-compatible.
- **Asynchronous transfer mode.** ATM carrier services are still expensive. Originally developed by Bell Laboratories for high-speed voice networks, ATM has now been adapted for data applications. They are able to move data at 155 mb/s, whereas advanced modems top out at 56 kb/s. The Defense Department uses a fiberoptic ATM network between the United States and Germany. The Mayo Clinic in Rochester, Minnesota, uses ATM for “telemedicine”—doctors

can videoconference with patients. ATM switches account for an estimated savings of \$200,000 per month for the American Petroleum Institution, which uses this tool to transmit drilling-site data over satellite. This technology is moving quickly into the public phone network, which increases the speed of the global communications network.

- Residential gateways will let customers plug in telecom carriers and cable companies' networks and give users more control.

Increased competition makes it hard to make money by selling unlimited on-line access. Service providers have to upgrade their equipment to handle higher modem speeds and install separate equipment and phone lines for rival technologies. Sales of new modems are expected to be huge, driven by the Internet boom. AOL signed a deal with U.S. Robotics, which was scheduled to start turning on telephone access numbers on February 27, 1997, to give subscribers log-on access at a faster speed. Currently, the only high-speed (56 kb/s) modems that America Online customers can use are made by U.S. Robotics, which now controls a quarter of the market. Modems from the Open 56K Forum Group—available in March 1997—cannot talk to those of U.S. Robotics. Most of the Open 56K Group will have modems out in March 1997. U.S. Robotics has dominated the market; thus it appears that AOL chose well. The number 2 modem maker, Hayes Microcomputer Products, Inc., registered more than 40,000 people for a deal it offered on the company's Web page: Customers can get their high-speed modems for \$99 by sending in any brand modem. U.S. Robotics sells its superfast modems for \$199 for a version that is installed into the computer or \$239 for an external model.

Use of the Net has increased dramatically the demand for techies. An estimated 760,000 people are working for Net-related companies alone. The Internet is full of companies' ads wanting programmers. A new study by the Information Technology Association of America estimates that 190,000 “infotech” jobs stand vacant in U.S. companies—half in the information industry. The situation can get worse, because the number of college students in computer science has fallen 43 percent in the past decade. Net-related companies are spending mil-

lions of dollars recruiting employees. In 1996, pay for infotech workers rose by 12 percent to 20 percent, while average annual pay for software architects rose to \$85,600.

The on-line services market is highly competitive. Major direct competitors include Prodigy Services Company, a joint venture of International Business Machines Corp. and Sears, Roebuck and Co.; e-World, a service of Apple Computer, Inc.; GEnie, a division of General Electric Information Services; Delphi Internet Services Corporation, a division of News Corp.; Interchange, a service of AT&T Corp.; and Microsoft Corp., which launched its on-line service under the name Microsoft Network. Microsoft has been devoting considerable resources and energy to focus the firm and its products squarely on the Internet. The Internet directory services are another source of competition, including NETCOM On-Line Communication Services, Inc., Bolt, Beranek & Newman, Inc., Performance System International, UUNET Technologies with Internet MCI, Yahoo, Inc., Excite, Inc., Infoseek Corporation, and Lycos, Inc. Finally, software providers such as Intuit, Inc., and Netscape Communication Corporation are another category of competitors.

America Online is by far the largest on-line service, with 10 million American members as of 1997. CompuServe was the second largest service prior to AOL acquiring it. The Microsoft Network is the second largest on-line service, with 2.3 million subscribers. But a great deal of the competition comes from the small local Internet providers, who were the catalyst that drove AOL to the flat-rate pricing plan.

The imperatives for global communications look very promising. Telecom and data networks should become a lifeline for nations, businesses, and individuals. The Internet is pushing world financial markets and the flow of goods and services. The Net has the potential to revolutionize business and human lives, but it also has the danger that the network can be a vehicle of isolation. Communication by fax, modem, wireless handset, videoconferencing, or telecommuting can create personal isolation. A high-tech world may need to be counterbalanced by community, family, and person-to-person contacts.

The Internet and more advanced computing, plus training for people to understand and partici-

pate in the network, have obvious educational potential.

## THE FLAT-RATE DEBACLE

Through December 31, 1994, America Online's standard monthly membership fee for its service, which included 5 hours of services, was \$9.95, with a \$3.50 hourly fee for usage in excess of 5 hours per month. Effective January 1, 1995, the hourly fee for usage in excess of 5 hours per month decreased from \$3.50 to \$2.95, while the monthly membership fee remained the same.

In October 1995, AOL launched its Internet Service, Global Network Navigator (GNN), which was aimed at consumers who wanted a full-featured Internet-based service but without the full-service quality of AOL. The monthly fee for GNN was \$14.95. This fee included 20 hours of service per month with a \$1.95 hourly fee for usage in excess of 20 hours per month. In May 1996, AOL announced an additional pricing plan, which was oriented to its heavier users and called Value Plan. It became effective July 1, 1996, and included 20 hours of services for \$19.95 per month with a \$2.95 hourly fee for usage in excess of 20 hours per month.

AOL usage increased dramatically when the company announced its plans to offer flat-rate unlimited pricing in October 1996. AOL switched its more than 7 million members to unlimited access for \$19.95 a month. Its network was deluged by subscribers, many of whom could not log onto the system during peak evening hours or on weekends. Exhibit D shows comparative data before and after this new pricing policy.

Following the second shutdown of its system in January 1997, the company's chairman and CEO, Steve Case, emphasized that AOL took full responsibility for the "busy signals":

When we decided . . . to introduce unlimited use pricing, we were well aware that usage would increase substantially. We did some consumer testing and operations modeling to generate usage forecasts, and we began building extra capacity in advance of the December launch of unlimited pricing. We thought that there would be some problems with busy signals during our

**EXHIBIT D****AOL System Use Before and After Flat-Rate Pricing**

<i>Average AOL</i>	<i>January 1997</i>	<i>September 1996</i>
Member daily usage	32 minutes	14 minutes
Daily sessions	10 million	6 million
Total hours daily	4.2 million	1.5 million
Total hours per month	125 million (est.), (Dec.: 102 million)	45 million
Peak simultaneous usage	260,000	140,000
Average minutes per session	26 minutes	16 minutes

peak periods in some cities. . . . But we expected those problems to be modest, and not too long in duration.

AOL has tried to decrease the “busy signal” by increasing the size and pace of the system capacity expansion by bringing in new hardware, installing circuits, adding 150,000 new modems, increasing the number of customer service representatives to 4000, offering a toll-free line, and reducing marketing efforts. Mr. Case even asked the customers for help by moderating their own use of AOL during peak hours.

Even so, AOL became fodder for comics and lawsuits. In one comic strip, the customer is shown on the telephone conversing with “customer service”:

*Caller:* “I am not getting my money’s worth with your on-line service.”

*Service:* “Good news, sir! We have just cut our rates.”

*Caller:* “Your lines are always busy. . . . I can’t get on-line!”

*Service:* “Don’t forget you get unlimited time on-line for no extra charge.”

A number of AOL customers filed lawsuits against the company in more than 37 states, charging the firm with civil fraud, breach of contract, negligence, and violation of state consumer-protection statutes. The negative publicity from the “busy signals” allowed other on-line providers the opportunity to expand their number of subscribers and increase their revenues from advertising and merchandising fees.

America Online began a refund offer to its members, and the attorneys general in several

states agreed to support its proposed plan to members. The plan involved the following refund policy: Customers had a choice of a free month on-line or up to \$39.90—the cost of 2 months of its unlimited service. In addition, AOL increased customer service staffing to handle member cancellations so that calls were answered within 2 minutes. Also, AOL gave customers the opportunity to cancel their membership through mail, fax, or toll-free number.

In the meantime America Online was facing another legal problem, this time from its shareholders. On February 24, 1997, shareholders sued in U.S. District Court in Virginia alleging that AOL directors and outside accountants violated securities laws in the way the company did its accounting. The on-line giant took a \$385 million charge in October 1996, for marketing expenses it had capitalized.

The various problems facing America Online raised serious doubts among analysts about its ability to meet its goal to earn \$60 million in fiscal year 1998 (ending in June) without more revenues from sources outside of operations. An analyst with Smith, Barney & Company believed that the \$1.7 billion company had a cash flow problem that could force AOL to raise cash through bank loans or another stock offering—which would be the company’s fourth. “The worst time to go to the market is when you need to,” notes Abe Mastbaum, money manager of American Securities.

Prior to 1997, AOL was able to maintain its positive cash flow through the addition of new members. Due to overload of the system, brought on by flat-rate pricing, new members cannot be added as aggressively as needed. The company will have to develop new sources of revenue, such as on-line advertising and fees on electronic transfers, or

charge additional fees for premium channels. AOL launched its first premium channel in July of 1997. Its premium games channel allows people from around the world to play both traditional games, such as hearts, and new games against each other. It charges \$2 per hour for the premium games channel.

Since AOL did not have the infrastructure in place to handle the increased usage that came with the revised pricing structure, America Online planned to hold its membership at 8 million and spend \$350 million to expand system capacity and customer support. Then a large acquisition substantially changed system capacity.

In April 1997, rumors were heard about AOL acquiring CompuServe from WorldCom. America Online declined to comment. CompuServe said the company is in “external discussions” regarding a deal. Buying CompuServe would add much-needed network capacity to AOL’s strained system. These speculations gave a boost to both companies’ stock: CompuServe’s shares jumped 12 percent to \$11; AOL’s stock was up 7.6 percent to \$45.75. A month before, CompuServe Corp. had quietly cut 500 jobs, or 14 percent of its workforce, which was

the latest evidence of the on-line company’s troubles as it lost members in an intense competition with America Online and other rivals. The cuts left CompuServe’s home office in Columbus, Ohio, with about 3200 employees who were primarily on-line content and service specialists. At the same time, CompuServe posted a \$14 million quarterly loss, and 3 days later the company’s president and chief executive, Robert J. Massey, resigned. In September 1997, AOL bought CompuServe.

CompuServe was acquired in exchange for AOL’s ANS Communications Subsidiary. AOL also received \$175 million in cash. This added 100,000 modems to AOL’s system for the short term. AOL also received long-term network commitments from WorldCom. AOL expected that the exchange would allow it to focus on its core assets— AOL Networks and AOL Studios. CompuServe would be retained as a brand name with continued marketing to small business and professional markets but with AOL’s expanded content and ease of use. The companies plan to collaborate on the future development of a broadband communications network, as opposed to the current narrow-band network that consists mainly of telephone lines.