

Marketing a New Medium: The False Starts and Misfits of Videotex and Online Services

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When videotex was first introduced in the 1970s France's government supported Teletel service emerged as the model for consumer acceptance and commercial success. Conversely, in the free market of the United States videotex systems developed erratically. First newspaper publishers then database operators explored its technical and commercial potential, supported by hit-and-miss marketing efforts. Facilitated by advancing personal computing hardware and software, U.S. videotex services offering proprietary content caught on with personal computer owners. Then the World Wide Web revolutionized the medium, forcing videotex services to evolve into internet service providers (ISPs). Out-marketing others in a highly competitive and chaotic industry, America Online solidified its position as the dominant ISP. Recently, technology has again thrown the medium into turmoil as broadband has elevated speed to the top of consumers' list of "must-have" service attributes. AOL and other dial-up ISPs are now fighting a marketing war to retain their subscribers.

A giant home information industry is taking shape in the plans of hundreds of companies... By 1990, they are confident that videotex will be big business.

--Business Week, June, 1981

Videotex is an umbrella term used to describe interactive services built on computing and telecommunications technologies. Intended for personal use by a mass market, videotex systems electronically deliver text, graphics, audio, and video content via telephone lines or coaxial cable for display on a television set, video terminal or personal computer (Hawkins 1990, Carlson 2004). Users communicate with the service provider's computer and access through computer links called gateways content from outside information providers. All online systems, including the Internet, fall under this definition.

This paper traces the marketing of videotex and online services. It begins with brief consideration of European videotex systems. In particular, France's highly successful Minitel videotex service is examined with an eye towards understanding its success. Then videotex in the U.S. is

explored from its origins to present day. The historical record, as discerned from extensive library and Internet research, reveals the nature of videotex services' marketing activities and brings to light their successes and failures.

THE MINITEL MODEL

Great Britain is credited by many with developing the first videotex system. Created by the British Post Office, Viewdata, later renamed Prestel, was demonstrated in 1974 and launched commercially in 1979 (Carlson 2004). Based on costly adapted television sets and dedicated terminals, Viewdata offered access to thousands of pages of information but was prohibitively expensive for consumers. Having never attained a critical mass of consumers the service was shuttered in 1994. Other nations such as Germany, Japan, Finland, and the Netherlands introduced videotex services in the late 1970s and early 1980s, but France's was unique in achieving rapid national acceptance and commercial success.

France's Teletel, a simple text and graphics system commonly known as Minitel, was publicly demonstrated in 1980 (Carlson 2004). Equipped with a small monochrome screen and fold-down keyboard, the first 4.5 million Minitel terminals were supplied free by state-owned France Telecom. Later subscribers were charged a nominal monthly fee for the small, easy to use terminals (Truell 1994). In addition to government support and ease of use, another key to Minitel's success was the creation of a "trigger application" that would encourage repeat usage. The French PTT engineered a consumer need by discontinuing the printing and distribution of telephone directories (Hawkins 1991). That information was the first service placed on the Minitel network and, with frequent usage all but guaranteed, thousands of other commercial and non-commercial services followed (Thomas 1996). E-mail, train schedules and reservations, banking, bulletin boards, dating services, and chat rooms accessed through Minitel grew rapidly.

According to the Organization for Economic Cooperation and Development, by the end of 1990 there were 6.8 million videotex users outside the U.S. Germany's Bildschirmtext had over 250,000 users and Great Britain's Prestel had 160,000 (Incompatibilities mar growth 1992). France's Minitel was the leader and by

April, 1996, 14 million people were accessing services from 26,000 providers (Brothers 1996). Threatened by the growing adoption of personal computers and the Internet, Minitel rolled-out a new generation of faster, color Minitel terminals. And France Telecom launched its own ISP, Wanadoo, with access to Minitel (Thomas 1996). Nevertheless, Minitel usage declined with the growth of the more sophisticated Internet. In 2000, Minitel use in total minutes dropped 11 percent after declining 7 percent in 1999 (Tagliabue 2001). Although still useful in non-computer households, Minitel's eventual demise is generally accepted.

VIDEOTEX FITS AND STARTS IN THE U.S.

Conditions surrounding the beginning of videotex in the U.S. were unlike those in France. Absent financial support by government or a discernable consumer want or need to fulfill, early videotex in the U.S. was a service in search of a consumer and a revenue stream. The U.S. introduction of videotex dates to trials and commercial launches by newspaper publishers in the 1980s. Concerned with declining readership, publishers saw videotex as their electronic future and partnered with leading technology and telecommunication companies to offer text-and-graphics capable videotex systems. Their arrival was trumpeted by forecasts of extraordinary consumer market potential (Vilardi 1984).

One of the most ambitious first efforts was Viewtron, a joint venture of Knight-Ridder newspapers and AT&T. Viewtron started as a market trial in Coral Gables, Florida in 1980, promising consumers a new medium for news and information, shopping, banking, and communicating (Viewtron Growth 1984, Finberg 2003). When the service began commercial operation in October, 1983 it demanded much of its South Florida subscribers. To access the service consumers needed (Finberg 2003):

1. a dedicated AT&T Sceptre keyboard/terminal that first retailed for \$900, later reduced to \$600 when demand was weak,
2. a television set to display the color images,
3. a phone line to connect with Viewtron's computers,
4. to pay a \$12 monthly subscription fee and hourly fees for service connection time.

Viewtron expanded its service Florida-wide in 1984 and to other U.S. cities the following year (Carlson 2004). Even with solid content offerings such as night before access to the *New York Times* and airline schedules from the Official Airline Guide, demand for the service suffered. In a failed attempt to attract more subscribers, Viewtron later experimented with terminal rental, reduced monthly fees and, near the end, personal computer compatibility (Viewtron Growth 1984, Spillman 1985, "Knight-Ridder

pulls" 1986). The system folded in March, 1986 with losses estimated at \$50 million (Moran 1986).

Gateway was a joint venture between newspaper publisher Times Mirror and Infomart, a Canadian software firm (Parr 1985). Market tests of Gateway were conducted in upscale, computer savvy Orange County and Palos Verdes, California. Commercial service launched in October, 1984 with a database of news and entertainment information, e-mail, shopping, banking, travel information and booking, and games (Pryor 1994). Telephone lines delivered the text and color graphics service through decoder boxes attached to television sets; access was through remote alpha-numeric key pads (Pryor 1994). Monthly charges included \$10 for the equipment and \$19.95 for the service (Parr 1985). Subscriber turnover was high with those dropping the service reporting dislike for the technology and the cost structure (Pryor 1994). By mid-1985 the television-based service was discontinued and personal computer owners were targeted. Nevertheless, Gateway closed in March, 1986 after reportedly losing \$30 million (Harris 1986).

KeyCom was a third videotex trail-blazer. A joint venture of telephone company Centel Communications, newspaper publisher Field Enterprises, and computer manufacturer Honeywell, KeyCom took aim January, 1985 at the roughly 500,000 personal computer users in the Chicago area (Moran 1986). KeyCom made software available for \$59.95 and charged \$14.95 per month for five hours or \$29.95 for 15 hours use (Carlson 2004). A comprehensive package of services was available yet, after attracting just a few hundred paying customers, KeyCom closed after just six months (Moran 1986).

Regarding these videotex services' failure to realize commercial success, it has been suggested that it was the right idea but the "...wrong technology at the wrong time" (Finberg 2003, 3). This may be so, but a better understanding results from a critical look at how the marketing failed to satisfy consumer needs. The underlying technologies fell short in several ways. Dedicated terminals were foreign to consumers and their system interfaces were complex challenging users' rudimentary navigation skills. Moreover, systems required the simultaneous use of the television and telephone by one person, restricting the communication and entertainment activities of others in the household (Hawkins 1991). The content and services generally followed a "newspaper model" anchored by news and information; while news and information is useful it was already available less expensively in other media. And even when the content possessed the entertainment value sought by consumers through e-mail, chat, and games, the early services lacked the critical mass to deliver a shared experience. As for costs, consumers felt the equipment and connect time charges were too high, driving those interested enough to subscribe to eventually cancel (Pryor 1994). Apparently, since these services were paid for with discretionary income, videotex was not considered a

necessity. In sum, a range of marketing mis-calculations worked against achieving consumer acceptance.

VIDEOTEK: THE NEXT GENERATION

Concurrent with the groundbreaking videotex trials, interest in online, text-only database and bulletin board services was growing among computer hobbyists. The most significant, CompuServe, is credited with offering the first online e-mail and real-time chat services (CompuServe: The Value Leader 2004). CompuServe, which began as a mainframe time-sharing service, started offering to personal computer users in 1978, access to a bulletin board with connect time paid for in one minute increments (McQueen & Whittington 1984). By 1980 CompuServe had attracted several thousand subscribers and *The Columbus Dispatch* became the first newspaper to offer an electronic edition on the service. Within two years eleven U.S. newspapers were on CompuServe which, by the end of 1983, had 63,000 subscribers (McQueen & Whittington 1984). CompuServe was driving the emergence of a viable videotex service. Other database services were initially dismissed as clones of CompuServe but in time evolved into full-fledged videotex services in their own right. Delphi was founded by General Videotex Corporation in 1982 as an online encyclopedia, and General Electric's GENie entered the market in October, 1985 with stock purchasing and financial advice services (Banks 1991).

These database systems were joined by two text-and-graphics services designed for personal computer owners. IBM, Sears, and CBS (which withdrew in 1986) formed Trintex, later renamed Prodigy, in 1984. Test marketing began in mid-1988 followed by a national roll-out of the service in September, 1990 (Zimmerman 1991). Quantum Computer Services, founded in 1985 and later renamed America Online, Inc. (AOL), launched its PC-link and Applelink videotex services in 1988 and 1989, respectively (Who we are 2004).

In the early 1990s, with the personal computer (plus dial-up modem and telephone line) accepted as the technical configuration, these services were able to concentrate their resources on developing user interfaces and creating the most compelling package of content and services, pricing, and promotion. The goal was to create a viable business model. They all offered a bundle of proprietary content and services, typically from among electronic mail, sports, weather, news from full-text magazines and newspapers, stock quotes, brokerage services, games, interest group forums and bulletin boards, and travel booking. Subscribers typically paid for a basic level of service plus surcharges for additional time and access to so-called enhanced or professional services.

The fast pace and high volume of competitive activity reflected videotex services' urgency to adapt their marketing mix to consumer wants and needs. What follows traces the major activities of the industry leaders.

GENie entered the 1990s with over 200,000 subscribers and announced a modified flat rate plan (GENie, Delphi Lower 1990). GENie subscribers had unlimited access to more than 100 of their services during nonprime-time hours for \$4.95 per month. However, the prime-time access rate (weekdays between 8 a.m. and 6 p.m.) was \$18.00 per hour and extra charges were incurred for the menu of financial services. Delphi had grown to a full-service videotex system and also sought subscriber growth with a revised rate plan (Banks 1991). Members were allowed a choice of a volume discount for heavy users (20 nonprime-time hours for \$20.00, plus \$1.20 per hour for any additional hours) or a basic plan of \$5.95 per month which included one nonprime hour with additional nonprime time costing \$6.00 per hour. But their efforts would soon be overshadowed by more aggressive competitors.

By January, 1991 IBM and Sears had invested approximately \$650 million in Prodigy to establish the service and build its subscriber base (Brown 1991). CompuServe claimed over 600,000 subscribers and, in keeping with its computer professionals user profile, its most popular services were communication forums offering technical assistance and free software downloads for computer users (O'Leary 1990, Hawkins 1991). A year later Prodigy claimed 1.25 million members but strategic missteps made Prodigy a lightning-rod for criticism (Blankenhorn 1992). High electronic mail volume led Prodigy to levy a surcharge on heavy users. Subscribers were angered and thousands left the service. Prodigy also raised contentious First Amendment issues by censoring its online bulletin board postings for sexual content, going so far as to shut down its sexually explicit "Frank Discussion" forum (Zimmerman 1991).

A defining moment for the new medium came in January 1992 when the Videotex Industry Association changed its name to the Interactive Services Association in recognition that videotex was fast evolving (VIA becomes ISA 1992). As competition intensified, Prodigy and CompuServe revised their pricing plans and content packages to staunch subscriber complaints and attract new members (Rading 1992). To address consumer concerns of accumulating excessive charges, Prodigy introduced basic and enhanced service packages for flat monthly fees. CompuServe, relatively unknown outside the computer industry, followed suit with its own flat-rate pricing and rolled-out new advertising intended to boost its brand awareness. CompuServe's campaign positioned the service as "the information service you won't outgrow," a shot at Prodigy's more limited offerings (Rading 1992). Meanwhile, AOL's membership was increasing rapidly as it upgraded its Macintosh and DOS interfaces and developed a version for Microsoft's Windows operating system (Banks 1992).

The mid-1990s was a time of extraordinarily rapid change for what were fast becoming online services. Subscribership grew as consumers who bought computers sought to maximize their utility and extract value from their

home technology investment. Graphical interfaces were created to facilitate online service use. Mosaic, the first graphical browser for the World Wide Web, was released by the University of Illinois, soon to be followed by Netscape's first navigator (Carlson 2004).

Providing a much needed service for the industry, Prodigy defined online services for mainstream America with its 1993 national television advertising telling consumers, "You Gotta Get this Thing!" (Steinberg 1993). In April, 1993 AOL revised its pricing plan to provide more hours for a set monthly fee while, in July, Prodigy again angered its customer base by abandoning its recently introduced flat rate pricing in favor of standard, monthly fee plus hourly use packages. A front-end graphical user interface introduced by Prodigy was at first dismissed as too simplistic by experts. But other services followed because the interface engendered ease of use and removed a barrier to subscriber satisfaction. Amidst the technical advances and seesaw pricing policies each service was developing its own distinctive personality and communities (Steinberg 1993). True to its roots CompuServe catered to male, computer savvy professionals. Prodigy's target market was families. America Online and Delphi emphasized chat and social forums. And GEnie became known for on-line games.

Subscriber growth accelerated in 1994. Prodigy reported over 2 million subscribers in May (Donaton 1994). AOL, which reported 600,000 members in February, reached 1 million users by July (Carlson 2004). Victims of the increasingly competitive market, GEnie and Delphi were becoming marginal players as their subscriber growth stalled. With the Internet looming large, AOL set to work on its own Web browser and in the spring Prodigy was first to offer a Web browser for full Internet access (O'Leary 1995).

FROM PROPRIETARY SERVICES TO INTERNET PORTALS

In retrospect, 1995 is best characterized as the year of connecting to the Internet. Chaos reigned as the online services expanded their content, upgraded their interfaces, introduced audio and video content, and waged price wars (O'Leary 1995). Overall subscribership increased 64 percent, reaching 8.5 million users. A mass market was being created amidst the cut-throat competition.

Aggressive promotional efforts enabled AOL, whose proprietary content offered novices a well-outfitted first stop on the Web, to emerge as the leading service with 4 million subscribers at the close of 1995 (Kornbluth 1995). CompuServe held second place with 3.9 million users and Prodigy, the first family oriented service, saw its growth stalled at 2 million subscribers (Kornbluth 1995). Deep-pocketed Microsoft entered the fray. The Microsoft Network (MSN) debuted in the summer positioning itself as a portal to the Internet unlike the existing commercial

online services which had previously served primarily as content aggregators. MSN quickly attracted 600,000 subscribers (Kornbluth 1995). Losers in the competition were industry also-rans Delphi and GEnie which was high-priced and late to offer a graphical interface and Internet access (O'Leary 1995).

In 1996, the online services were aligning with the World Wide Web to grow subscribership and revenues by supplementing their proprietary information with updated web-based content and electronic commerce. Seamless connectivity to the Internet became the standard. AOL enhanced its Internet access, offered a new pricing option of \$19.95 per month for 20 hours of connection time, and was adding thousands of users each day (Lewis 1996). Prodigy enhanced its Internet access too but the effort came too late. Once the leading online service, by May Prodigy lost nearly half its 2 million subscribers due to cumbersome site navigation, underdeveloped content, and difficulty of use with an outdated Web browser (Mace & Ayre 1996). After investing over \$1 billion, IBM and Sears sold the service for a reported \$250 million to International Wireless, Internet provider to Latin America, Asia and Africa (O'Leary 1996). General Electric also sold its decade old GEnie service after its user base declined from over 200,000 to a mere 20,000 (O'Leary 1996).

AOL's tremendous growth to over 6 million members overwhelmed its system which crashed for almost the entire day on August 7, 1996, earning it the nickname "America Offline" (O'Leary 1996). Nevertheless, AOL continued to saturate America with its highly effective direct-response advertising campaign offering hours of free service to new subscribers. Moreover, just weeks after AOL's embarrassing system failure the service announced flat-rate pricing of \$19.95 per month for unlimited access, breaking with the industry's traditional pricing plans. This simplified pricing and set off a pricing war that only the strong could survive. Improved internet access and user interfaces were the order of the day for both AOL and Prodigy (AOL, Prodigy get face lifts 1996). Competitors like number two CompuServe with over 5 million members, had little choice but to follow suit (O'Leary 1996).

By the late 1990s, videotex services had reinvented themselves from clumsily delivering only proprietary content into Internet Service Providers (ISPs), aggregating content and serving as portals for exploring the Internet. AOL continued to experience service reliability problems and agreed to refunds for millions of its members, while still aggressively wooing new subscribers with "50-hours free" offers (Hodges 1997, Wang 1997). In 1997 and 1998 CompuServe and Prodigy created ads ridiculing these service lapses and announcing reduced monthly subscription fees. CompuServe's television ad, "Busy Signal," was slated to run during the Super Bowl (Hodges 1997). Prodigy's \$50 million advertising effort sought to rebuild its business by promoting a \$15.75 monthly fee for unlimited access (Tedesco 1998). Nevertheless, it was clear

AOL had found a marketing mix that resonated with consumers and its promotional efforts were effective.

In the closing years of the 1990s competition bordered on desperation. With over 4500 ISPs in the U.S. some small start-ups offered rebates that covered the cost of a home computer with the signing of a multi-year online service contract. AOL and Prodigy matched those offers (Kelley 1999, Weber 1999). Other ISPs, such as Netzero, offered free Internet access (Richtel 1999). Nevertheless, AOL, which ultimately acquired CompuServe and Netscape, was the dominant player with over 18 million members followed distantly by MSN, Prodigy (acquired by telecommunication company SBC Communications in 2001), and emerging competitors such as Earthlink (Cheng 1999). The online service business had matured with communications functions—e-mail, chat, instant messaging—and the Internet among its main attractions. Videotex had arrived. Telecommunications Reports International reported a third quarter, 2001 total of 67.9 million U.S. subscribers to online services (Pastore 2001).

NOW IT'S THE NEED FOR SPEED

The new century saw Microsoft's MSN trying to unseat AOL as the leading ISP by spending hundred of millions of dollars on product upgrades, advertising campaigns, and sales promotions (Swisher 2000, Angwin & Buckman 2002). That effort has been in vain; MSN has never been profitable and Microsoft recently halted its pursuit of dial-up Internet access subscribers (Markoff 2004).

AOL continued to update its technology and enhance its content, extending its market dominance to reach over 26 million subscribers in 2002 (Fusco 2002). But the story does not end there. In recent years rich media content—graphics, animation, and streaming video—has become widespread on the Internet. To be sure, dial-up connections handle delivery of that content poorly. Consequently, subscribers have felt the need for faster Internet connections; the migration of dial-up ISP subscribers to higher capacity broadband cable and digital subscriber line (DSL) services is the industry's most recent trend.

This presents a serious threat to AOL and other dial-up ISPs. Of the available methods of Internet access, only cable modem and DSL have grown in recent years. Telecommunications and cable companies such as Comcast, SBC, Verizon, and Cox are among the fastest growing ISPs (Goldman 2004). In fact, in 2003, despite increased promotional activity, 2.2 million of AOL's dial-up customers defected and that fall-off has continued in 2004 (Atkinson 2004). In response, AOL improved its service with version 9.0 and has aggressively promoted free virus protection, SPAM filter, and parental control features. Moreover, since AOL does not offer a broadband service of its own, it is marketing an add-on service, AOL for Broadband, to which its members (and others) can

subscribe when they upgrade to a competitor's broadband service (Angwin 2003, Yang 2003).

Today, it appears online service users have become sufficiently well versed with the medium that proprietary content is less important than it once was. Still, unwilling to cede that value proposition, cable and telecommunication ISPs are expanding the content available on their home pages and featuring it prominently in their marketing efforts.

CONCLUSIONS

Operating in a free market with limited government involvement, the development of videotex and online services in the U.S. was messy and with contradiction. New media in the U.S. have often benefited from the setting of technical standards by government. Radio and television are prime examples, both of which remained largely unchanged for decades once the specifications were established. Without the benefit of government intervention, and working with relatively crude technologies, videotex services struggled to develop a technically capable and commercially viable information product. The advent of affordable personal computers and modems made the introduction of online services to a mass audience a possibility. However, it was aggressive marketing and responsiveness to consumer wants and needs that made it a reality.

CompuServe set the early standard for operating an online service, providing a model for how to attend to the interests of like-minded users with a focused set of interests. Prodigy and AOL learned from CompuServe and by examining the success of Minitel and the failures of Viewtron, Gateway, and KeyCom. And each made significant contributions to the growth of the industry. Both recognized the need for the ongoing integration of new technologies and the simplification of user interfaces. Prodigy's sheer financial muscle put online services on consumers' radar screens and defined them as family friendly. AOL's willingness to take pricing to its logical conclusion, along with unrelenting, incentive-based direct-response advertising, led to a significant industry shake-out. And Microsoft's willingness to enter late with seemingly unlimited financial resources maintained pressure on AOL and other ISPs to adapt to the needs of various user segments.

Consumers are now the engine of change as we seek to maximize the benefits from this new medium. Perhaps ISPs will be viewed as little more than a commodity, merely providing a point of entry to the Internet and purchased based solely on price. Or maybe ISPs that add value to their offering will be sufficiently differentiated to command a premium for their service. Only the future will tell.

REFERENCES

- Angwin, J. and Buckman, R. 2002. In Internet access, AOL begins to feel Microsoft's breath. *Wall Street Journal* (October 14): A1, A11.
- Angwin, J. 2003. America Online sets revival effort. *Wall Street Journal* (March 24): B4.
- AOL, Prodigy get face lifts. 1996. *PC Week* (June 17): 3.
- Atkinson, C. 2004. AOL's gut-wrenching' overhaul. *Advertising Age* (February 23): 1.
- Banks, M. 1992. Connect time. *Computer Shopper* (December): 843-844.
- Banks, M.A. 1991. Delphi: Small-town hospitality and metropolitan appeal. *Link-Up* (July/August): 24-26, 28.
- Blankenhorn, D. 1992. Analyst calls 1992 critical year for Prodigy. *Newsbytes* (January 16).
- Brothers, A. 1996. Minitel revisited: an update on the 'French Connection.' *America's Network* (April 15): 62.
- Carlson, D. 2004. David Carlson's virtual world: The online timeline. Available at: <http://iml.jou.ufl.edu/carlson/timeline.shtml>.
- Cheng, K. 1999. Top tier ISPs way behind AOL. *Mediaweek* (October 4): 66.
- CompuServe: The Value Leader in Cyberspace. 2004. Available at: <http://webcenters.compuserve.com/compuserve/menu/about.jsp>.
- Donaton, S. 1994. Prodigy cuts in-house ad sales team. *Advertising Age* (May 9): 18.
- Finberg, H. I. 2003. Before the web there was Viewtron. *Poynteronline* (October 29). Available at: <http://www.poynter.org/copntent/content/view.asp?id=52769>.
- Fusco, P. 2002. (May 29). Top ISPs by Subscriber: Q1 2002. *ISP-Planet*. Available at: <http://www.isp-planet.com/research/rankings/usa.html>.
- GEnie, Delphi lower online rates. 1990. *Link-Up* (September/October): 1, 8.
- Goldman, A. 2004. (January 5). Top U.S. ISPs by Subscriber: Q3 2003. *Clickz.com*. Available at: <http://www.clickz.com/experts/archives/emailstrategies/tech/print.php/3295131>.
- Harris, C. L. 1986. Two viewtron heavyweights quit-\$80 million lighter. *Business Week* (March 31): 31-32.
- Hawkins, D. T. 1990. And you thought videotex was dead! *Online* (November): 113-115.
- Hawkins, D. T. 1991. Lessons from the "videotex school of hard knocks." *Online* (January): 87-89.
- Hodges, J. 1997. Rivals' ads capitalize on AOL woes. *Advertising Age* (January 27): 44.
- Incompatibilities mar growth for global videotex market. 1992. *Information Industry Bulletin* (December 17): 4-7.
- Kelley, T. 1999. A world of choices to plug in to the net. *New York Times* (May 20): G1.
- Knight-Ridder pulls plug on viewtron. 1986. *Broadcasting* (March 24): 45-46.
- Kornbluth, J. 1995. Who needs America Online? *New York Times* (December 24): 16.
- Lewis, P. H. 1996. America Online profits up but stock falls 10 percent. *New York Times* (May 9): D2.
- Mace, T. & Ayre, R. 1996. Adapting to the Web: Prodigy. *PC Magazine* (June 11): 130-132.
- Markoff, J. 2004. Retreating from dial-up business, Microsoft aims MSN.com at Yahoo. *New York Times* (January 8): C1.
- McQueen, J. C. & Whittington, F. B. Jr. 1984. Videotex field trials: Implications for product development. *Journal of Telecommunication Networks* (Spring): 10-18.
- Moran, B. 1986. Videotex continues to be hostile frontier. *Advertising Age* 4: 119.
- O'Leary, M. 1995. Consumer services prosper in frantic '95. *Database* (December): 77-79.
- O'Leary, M. 1996. Internet waves toss troubled consumer online in '96. *Database* (December): 81-83.
- O'Leary, M. 1990. CompuServe at the crossroads. *Link-Up* (November/December): 22-23.
- Parr, B. L. 1985. Gateway begins full-scale operations in California. *Direct Marketing*, 47: 24, 26, 28, 30.
- Pastore, M. 2001 (November 15). Number of U.S. Internet subscribers drops again. *Nanotech Planet.com*. Available at: http://www.internetnews.com/isp-news/article.php/8_924691.
- Pryor, L. 1994. The videotex debacle. *American Journalism Review* 16: 40-43.
- Rading, A. 1992. CompuServe chases Prodigy with rates, ads. *Advertising Age* (February 24): 29.
- Richtel, M. 1999. Small Internet providers survive among the giants. *New York Times* (August 16): C1.
- Spillman, S. 1985. Viewtron monthly prices cut again. *Advertising Age*: 58.
- Steinberg, D. 1993. Making meaningful connections. *PC Magazine* (February 23): 303-315.
- Swisher, K. 2000. Boom town—Now poised to challenge AOL Online: MSN. *Wall Street Journal* (November 6): B1.
- Tagliabue, J. 2001. Online cohabitation: Internet and Minitel. *New York Times* (June 2): C1.
- Tedesco, R. 1998. Prodigy moves after AOL subs. *Broadcasting & Cable* (March 23): 97.
- Thomas, K. 1996. Keyed up and ready for battle. *Financial Times* (August 20): 9.
- Truell, P. 1994. Follow the French. *Wall Street Journal* (November 14): R35.
- Veit, S. 1996. What ever happened to...videotex? *Computer Shopper* (December): 626-627.
- VIA becomes ISA. 1992 (January 6). *Digital Media*: 18-19.
- Viewtron growth has been slow. 1984. *Editor & Publisher* (May 19): 38.
- Vilardi, V. 1983. The ABC's of videotex/teletext. *Marketing & Media Decisions* (18): 64-65, 112-114.

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- Wang, W. 1997. America Online offers refunds. *Boardwatch Magazine* (April): 88-89.
- Weber, J. 1999. Online: New hard sell on the Internet. *Wall Street Journal* (July 1): B1.
- Who we are. 2004. *AOL corporate website*. Available at: <http://www.corp.aol.com/howeare/history.shtml>
#1990

- Yang, C. 2003. AOL: Scrambling to halt the exodus. *Business Week* (August 4): 62.
- Zimmerman, M. R. 1991. Prodigy execs forecast healthy future for service. *PC Week* (February 25): 47-48.