

# Cases in Strategic-Systems Auditing

## LYCOS

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### **KPMG/University of Illinois Business Measurement Case Development and Research Program**

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## Introduction

If any single feature characterized Lycos in June of 1999, it was a history of remarkable growth in a nascent industry facing unprecedented market and

**On October 27, 2000, Terra Networks, S.A. and Lycos, Inc. announced completion of their combination to form a global Internet network, known as Terra Lycos.**

technological uncertainty. Founded barely five years earlier, Lycos moved swiftly from a start-up to an internationally known enterprise with a multi-billion dollar market capitalization. And Lycos was not alone. A host of start-ups captured Wall Street's seemingly insatiable appetite for Internet securities and left the more established companies scrambling to assure investors that their own Internet strategies were just around the corner. The magnitude and suddenness of the market's reaction to the arrival of the

### Network Externalities

A major uncertainty faced by Internet businesses is the potential potency of network externalities in shaping information-based markets. Economists recognize that some industries/products benefit from network synergies or externalities. For example, a single telephone is an interesting technological accomplishment but not one of great economic value. However, the value of a telephone, and in particular a phone system, increases nonlinearly as the number of telephones connected to the system increases. This phenomenon also has been attributed to software products (e.g., compatibility of word processing files) and, of course, to the Internet itself. One strategic consequence of network externalities is that the value of the underlying product/service depends on the size and viability of the network. One conjecture is that industries with strong network externalities often reach equilibrium with a single dominant player who may or may not have been the first mover.

commercialization of the Internet stimulated debate in the popular and business press about the rationality of financial markets. At the heart of this debate was the following issue: were Internet companies a fad or did they represent a fundamental transformation in the production and delivery of goods and services in the

*Information Age?* Some people saw the Internet as a vehicle in which ambitious entrepreneurs with limited funding could become overnight millionaires—a modern-day gold rush. Prospects for success in this budding economic landscape carried with them many uncertainties such as poorly developed business models and a persistent state of acceleration referred to as *Internet time*.

## Emergence of the Internet

By the late 1950s, the U.S. defense community believed that there was a need to develop a communications network that could survive a catastrophic nuclear attack. A point-to-point network was vulnerable because all communication traveled through a single node and a successful strike on that node could disable the entire system. The Defense Advanced Research Projects Agency (DARPA) requested proposals to solve this problem. Bolt, Baranek and Newman (BBN) received the DARPA grant and proposed a packet-switching network that disassembled messages, parceled the sections through various

paths and reassembled the message at the destination. With this initiative, the Internet was born. From its inception through the 1980s, there was a steady increase in the number of computers and users connected to the Internet, mostly at government and academic institutions. Early, commercial efforts to establish a public network were not particularly successful. For example, in 1985 Sears and IBM created the Prodigy network. However, in 1996 after spending \$1.2 billion and nearly a decade of development effort, they sold Prodigy for \$200 million.

The World Wide Web (Web), a collection of hyper-linked pages distributed across the Internet, came into existence in 1989 when a network protocol known as Hyper Text Transfer Protocol (HTTP) was invented at CERN (taken from a provisional body called Conseil Européen pour la Recherche Nucléaire) European Particle Physics Laboratory. Using Hyper Text Mark-up Language (HTML), a common language for describing documents, and the Mosaic browser software developed at the University of Illinois at Urbana-

Champaign (that later became Netscape), a graphic interface was created for the Web. These technologies made navigating the Internet considerably easier than in the 1970s and early 1980s when users employed simpler

Date	Hosts Counts	Date	Hosts Counts
08/1981	213	10/1991	617,000
05/1982	235	10/1992	1,136,000
08/1983	562	10/1993	2,056,000
10/1984	1,024	10/1994	3,864,000
10/1985	1,961	07/1995	6,642,000
11/1986	5,089	07/1996	12,881,000
12/1987	28,174	07/1997	19,540,000
10/1988	56,000	07/1998	36,739,000
10/1989	159,000	07/1999	56,218,000
10/1990	313,000	01/2000	72,398,092

Source: Internet Software Consortium (<http://www.isc.org/>), reprinted with permission.

text-based file transfer protocol (FTP) technology. With the rapid increase in Internet users, these older technologies began to show design inefficiencies and there were discussions by the end of the 1990s for a new Internet Protocol. As the number of hosts on the Internet grew (see Table 1), the proliferation of information created demand for a product that could search for specific information in an ever-expanding database and efficiently organize that information.

## History of the Lycos Search Engine

Innovative work by Michael Mauldin, Ph.D., a computer-science researcher, led to development of technology for a Web search-engine. Mauldin's interest in a search engine for the World Wide Web began in April of 1994 when he was between grants as a post-doctoral fellow at Carnegie Mellon University (CMU). Acting on the recommendation of his doctoral adviser, Mauldin thought it would be

challenging and fun to write an artificial agent application for the Web. His knowledge of artificial intelligence enabled him to create an intelligent agent or *spider*. The spider could read Web pages, create an abstract of the page and post summary information to a central location available to the rest of the Web. In comparison, an early competitor, Yahoo!, created directories requiring someone to locate, read and categorize the Web site, a resource intensive process.

Although developing an index of the Web was not a new idea, the need to store large quantities of data presented a formidable hurdle. But Maudlin overcame that problem by accessing Carnegie Mellon's computing facilities. In July of 1994, he created the first Lycos catalog using his search-engine technology and downloaded homepages from the Web. In the same month, he published a uniform resource locator (URL) to the Lycos catalog on the Web and received 18 hits on the first day. News of the search engine spread rapidly through the Web community and within several months Lycos was receiving between 30,000 and 50,000 hits per day.

The timing of Lycos's growth was fortuitous because Netscape released its browser software just as Lycos was becoming the most frequently used search engine. Because of its popularity, Netscape put Lycos at the top of its list of search engines. After Netscape was released, the number of hits per day grew at a dramatic rate. By December of 1994, there were 10,000 new users per week. With this rapid growth, the Lycos search engine became cramped for computing resources. Using funds borrowed from CMU, Maudlin invested in hardware. With increasing demands on his time for the rapidly growing responsibilities of servicing Lycos, Maudlin approached the CMU technology transfer office about helping him find people to support the new venture.

## Initial Licensing Agreements

The initial design of the Lycos search engine provided important advantages over its commercially available competitors. The Lycos spider, in contrast to other technologies, searched Web pages and summarized, rather than copied the content, avoiding potential legal problems of copyright infringement. Also, the Lycos spider possessed sufficient intelligence to differentiate various meanings of the same word. A search on the word *king* returned information for Martin Luther King, monarchs and a chess piece. In this way, the Lycos spider provided a context for the search without requiring the user to expressly state it. Additionally, as the spider searched the Web, it mapped the links between Web sites and used this mapping to prioritize search results (i.e., the most popular Web sites were listed first).

As the Lycos search engine grew in popularity, opportunities for commercialization became evident and Mauldin was soon approached about licensing. Also, the demand for search capabilities emanating from Internet *surfers* attracted advertisers wanting to capitalize on this new media venue. But Lycos could not offer commercial advertising while it was hosted at a not-for-profit institution. So, as an interim strategy, Lycos made a tape of its data and licensed it to other companies. The first licensees were The Library Corporation of Reston, Virginia and Microsoft Corporation. Revenues from these license agreements were sufficient to allow Mauldin to repay CMU.

Lycos's licensing strategy caught the attention of persons at CMGI (<http://www.CMGI.com>), a diversified Internet development company, who wanted to use the product as a base for a group of Internet companies. CMGI saw the potential to access a growing audience and by August 1995 had acquired exclusive rights to the search spider. Lycos's initial public offering (IPO) of \$48 million (three million shares) took place on April 2, 1996. At only 10 months from its founding, Lycos was at the time the youngest company in NASDAQ history to go public. (See Table 2: Lycos' s Closing Monthly Stock Price on a Split Adjusted Basis.)

<u>Date</u>	<u>Price</u>	<u>Date</u>	<u>Price</u>	<u>Date</u>	<u>Price</u>	<u>Date</u>	<u>Price</u>
Apr-96	4.38	Feb-97	4.69	Dec-97	10.34	Oct-98	20.30
May-96	3.84	Mar-97	3.52	Jan-98	9.55	Nov-98	29.50
Jun-96	2.78	Apr-97	3.22	Feb-98	10.33	Dec-98	27.78
Jul-96	1.48	May-97	3.63	Mar-98	11.06	Jan-99	68.50
Aug-96	1.69	Jun-97	3.19	Apr-98	15.45	Feb-99	43.81
Sep-96	2.97	Jul-97	4.72	May-98	13.26	Mar-99	43.03
Oct-96	2.50	Aug-97	7.78	Jun-98	18.84	Apr-99	49.84
Nov-96	2.91	Sep-97	8.50	Jul-98	14.28	May-99	50.25
Dec-96	2.63	Oct-97	6.53	Aug-98	10.84	Jun-99	45.94
Jan-97	4.22	Nov-97	7.64	Sep-98	16.91		

Prepared by authors based on publicly available data.

## After the IPO

In May of 1997, Lycos had an Internet portal presence in 11 European countries. Its expansion ahead of other search providers was attributed to its unique ability to create Web-page abstracts and by its business acumen in forming joint ventures with organizations like Bertlesmann AG (German media conglomerate that owned BMG Music, Doubleday, Random House and Barnes & Noble, among other companies).

Table 3 provides a timeline of Lycos's corporate development.

<b>Table 3: Lycos's Timeline</b>		
<b>Date</b>	<b>Event</b>	<b>Description</b>
June-95	Creates spider technology	Inception period
October-95	Acquires Point Communications	An online review and rating guide
April-96	Initiates IPO	Youngest company to go public at the time (NASDAQ)
May-97	Launches local Lycos with Bertelsmann AG	Austria, Benelux, France, German, Italy, Japan, Korea, Spain, Sweden, Switzerland, UK
March-98	Launches local Lycos with Sumitomo & IJ	Services in Japan
February-98	Acquires Tripod (\$39.75m)	18-34 demographic, 1.4m users, <i>pod</i> s with active memberships
April-98	Acquires WiseWire	Personalizes Internet content to users needs
	Invests in Mail.com	9.9 percent ownership stake in free Web-based e-mail products
August-98	Invests in Sage Enterprises (PlanetAll)	14.8 percent ownership stake
	Acquires GuestWorld	Guestbook services
	Acquires WhoWhere	Line of Web-based applications, directory services MailCity e-mail, Angelfire
	Swaps Stock of PlanetAll with Amazon.com	Lycos receives 322,128 shares of Amazon.com for its position in PlanetAll
Sept-98	Invests in Bidder's Edge	19.9 percent ownership in online auction tools
October-98	Acquires Wired Digital	Begins acquisition of Online news and content sites, including Wired News, HotWired and Webmonkey and the award-winning Web-search site, HotBot
Nov-98	Initiates ad campaign "Go Get It"	National advertising campaign
Dec-98	Invests in Valent Software	16.7 percent ownership in software for online clubs
Feb-99	Proposes merger with USA Networks and Ticketmaster	USA Networks would contribute the Home Shopping Network to the merged assets of Lycos and Ticketmaster to vertically integrate e-commerce transactions
March-99	Enters into joint venture with Mirae Corporation	Korean localization of Lycos.com, Tripod and MailCity
April-99	Invests in Frictionless Commerce	16.7 percent ownership in software for online commerce
May-99	Ends merger talks with USA Networks, Lycos, Ticketmaster	Companies call off proposed merger
June-99	Acquires Wired Ventures	Completes acquisition
July-99	Acquires Internet Music Distribution	Digital content delivery, including Sonique, that downloads audio formats from the Internet so they can be played from the user's computer
	Founds Lycos Ventures	Lycos forms L.V. for early-stage investment in new Internet technology companies, with Bear Stearns, Mellon Ventures, Sumitomo and Vulcan Ventures
Sept-99	Enters into joint venture with Singapore Telecom	Establishes local portal sites selected target markets in Asia
	Acquires Quote.com	Online trading in financial instruments
October-99	Launches Lycos in Central and South America	Company-owned

Source: Prepared by the authors based on publicly available data from the company's Web site and 1999 10-k filed with the SEC.

## Advertising Revenue Model

In 1999, Lycos earned slightly more than two-thirds of its total revenue of \$93.4 million from advertising. Prominent consumer-product advertisers such as Coca-Cola, Disney, Dell, The Gap, Intel and Sony contracted for advertising *impressions* (displaying advertising on a user's screen) via banners (a size-constrained, mini HTML page that pops up when a homepage is accessed and when clicked transfers the user to the advertiser's Web page). Lycos offered three different contract arrangements:

➤ ***Run of site or run of network ad contract***

A banner is placed on one of Lycos's Web pages, guaranteeing the number of impressions viewed by users.

➤ ***Key word search initiated by a query of the search engine***

The advertiser's banner ad is associated with specific key words used to direct the search. For example, if a visitor searches for a *vacation getaway*, a Disney Hotel banner ad may be displayed along with the search results.

➤ ***Targeted contracts***

Banner ads are placed in certain WebGuides or specified Web pages. Lycos also has an arrangement with Barnes & Noble to provide links to the bookseller's Web site based on search requests.

An unresolved question among advertisers was the effectiveness of banner ads in commanding the attention of Internet users. As in other media, proliferation reduces the effectiveness of any particular ad. But unlike print or broadcast media, the interactive nature of the Internet makes it possible to measure an ad's ability to attract viewer attention. Specifically, by counting *click-throughs* to the advertiser, where further product information can be provided or, in some instances, a transaction initiated, one can measure the impact of the advertisement. An interesting question was whether Lycos might earn greater revenues per click-through than the typical rate of \$16-\$100 per thousand banner ad impressions. Still, some uncertainties about click-throughs had yet to be resolved including whether Lycos's participation in any resulting transaction would make it subject to liability under consumer protection legislation.

A number of additional uncertainties faced companies, such as Lycos, that relied on the Internet advertising revenue model. For example, advertisers lacked familiarity with the *reach*, i.e., the number of viewers of on-line ads. Further, given the newness of the Internet, the recent rates of growth in advertising revenues could be an unreliable indicator of future advertising revenues. There also was the prospect of new technologies becoming available that would filter advertising banners and prevent their display by Web browsers.

## Products

Lycos provides a portfolio of products intended to attract and retain the attention of Web surfers. The Lycos search engine is the most recognizable of the company's products and for most users it serves as an introduction to the Lycos portal. Search engines often are the point of entry for a user and search results define subsequent stops providing a unique opportunity for the search-engine provider to gain and maintain the attention of the user, a characteristic known as *stickiness*. The Lycos search engine is effective in its ability to produce relevant search results quickly, including search results for graphics, sound and video. Searches also can be directed toward discussion groups or personal homepages. Although the search engine has been the primary attraction to the Lycos media properties, the company has a strategy for attracting traffic by partnering with other providers of commercial services, such as Internet service providers (ISPs) or hardware and software manufacturers.

## Content Provider

There is concern in the industry that search capabilities will become less important as Web users become more familiar with Web sites of personal interest. If that were to happen, content providers rather than search providers would have the first opportunity to gain users' attention. In response to this threat, Lycos offers editorial content in the form of guides and directories that provide information within its affiliated network.

Examples of these guides are as follows:

➤ **WebGuide**

This guide provides news briefings and relevant hypertext links to content on business, education, entertainment, fashion, sports and travel. WebGuide employs WiseWire automation technology to build a directory of relevant information for the topic areas covered.

➤ **Top 5 % Sites**

Lycos places sites into the top 5 percent when they meet certain criteria (e.g., valuable and interesting).

➤ **CityGuide**

This guide provides previews of more than 1,200 cities throughout the world with virtual tours and links to places of interest.

Content providers not only want to attract site visitors (a *pull* strategy) but also to *narrowcast* material to a target audience (a *push* strategy). For example, user preferences and online activities can be captured to create a personalized Web experience, which can be used to enhance customer loyalty resulting in longer

stays and an increased hit rate. Lycos provides tools to manage Web personalization such as: personal guides, news services (Reuters), stock prices (StockFind), industry and company-specific news and information (Companies Online) and reference services. The Personal Guide tailors news, weather, stock quotes, sports, lottery and local television listings to a user's preferences. It also stores and manages personal contact information and appointments. Reference services allow focused searches for individuals or businesses. PeopleFind locates persons who have registered their email, phone or home addresses. In cooperation with GTE, Lycos offers online Yellow Pages for locating U.S. businesses by category, name, address or keyword. Lycos RoadMaps provides driving directions and a map for any street address in the United States. Finally, Lycos Classifieds facilitates online sales of goods and services.

#### Switching Costs and Lock-in

**Switching costs** are faced by consumers when they change from one product to a competing product. For example, a consumer switching from one bank to another bears the costs of filling out required paper work, transferring balances, redirecting direct deposits and setting up direct withdrawals. Additionally, a consumer sacrifices the credit relationship that has been established with the bank over time. Switching costs can apply to many types of products. Moving one's e-mail account from one provider to another can impose learning costs and lost messages.

**Lock-in** occurs when switching costs become very high. Consumers that are locked-in to a product find it economically inefficient to accept offers from the supplier's competitors.

### Online Communities

#### Shareware

Traditionally, shareware relies on the application user to send a payment to an address given on the application's start-up *splash* screen. Recently, some shareware applications abandoned these requests for cash and turned instead to providing banner ads that are occasionally updated in the background when the user logs onto an Internet connection. In this way, targeted advertising pays for the investment in software development.

Through its licensing agreements with companies that have online community technology, Lycos offers chat rooms, clubs and bulletin boards. In addition, online communities often serve as a distribution channel for *shareware*—software applications of common interest to members of the community for which little or nothing is charged at initial installation. Lycos communities enable personalized content and services that are intended to make it the first stop when users go online.

Through acquisitions, Lycos offers:

- Tripod and Angelfire—personal homepage publishing tools
- Guestworld—personal homepage guestbook
- MailCity — e-mail products
- Sonique — music player.

In addition, by 1999, the Lycos network listed the following properties prominently at its site: Lycos.com, WhoWhere, HotBot, HotWired, Wired News, Webmonkey, Suck.com and MyTime.com. (See Table 4: Lycos Products.) Lycos also continues to develop additional technologies in-house such as Lycos personal page, the LycosPro advanced search and the Search Guard online filter.

**Table 4: Lycos Offerings**

Category	Function	Name or Description
<b>Navigation</b>	Search Engine	Lycos Search
	Guides and Directories	WebGuides, CityGuide and a Lycos version of the Open Directory
	Reference Services	WhoWhere?, Yellow Pages, Classifieds and Lycos Roadmaps
<b>Personalized Content and Information</b>	MyLycos	Personalized view of Lycos, including sports, weather, stock quotes, etc.
<b>Resources</b>	Personal Investing and Business News	Lycos version of Quote.com, Companies Online with Dun & Bradstreet
<b>Online Community User Services</b>	Email	MailCity – Web-based
	Chat and Bulletin Boards	Lycos Chat – with experts or celebrities
	Personal Homepages	Angelfire, Tripod
	Clubs	Product licensed from third parties to permit users to create interest-oriented groups
<b>Advertising</b>	Banner Advertising & Sponsorship Links	Provide <i>click-through</i> opportunities for Web-page advertising and content
	New Media Advertising Advice	Identify <i>click-through</i> effectiveness of ad placement and design
<b>Electronic Commerce</b>	AT&T – Lycos Online	Internet access for Lycos Online and the ability to purchase telecommunication services over the Internet
	Autobytel.com	Opportunity to solicit dealer offers to sell new cars
	Barnes & Noble	Purchase books throughout the Lycos Web site
	Bank One	Online banking products through its Wingspanbank.com online bank
	Fleet Credit Card Services	Lycos Network branded credit card
	LycosShop	Online marketplace offering thousands of products and services from the brand name retailers mentioned above and others, small specialty stores, auctions and classifieds
	WebMD	Health-related products and services

Source: Prepared by the authors based on publicly available data.

## Industry Competition

In its 1998 annual report, Lycos listed its competitors as America Online (including Compuserve), AltaVista, Excite (including WebCrawler), Infoseek Corp, Prodigy Services and Yahoo! Inc. The 1999 Lycos 10-k report filed with the S.E.C. stated (pages 6 and 7):

The primary competitors of the Company's products and services are other companies providing online services and include: About.com, America Online (including Netscape's Netscenter and Compuserve), CMGI's Alta Vista, Excite@Home (including WebCrawler), theGlobe.com, Disney's Infoseek Corp., Looksmart, Microsoft's MSN, NBC's Snap, Xoom, and Yahoo! (including Geocities). In addition, a number of companies offering Internet products and services, including direct competitors of the Company, recently have begun to integrate multiple features within the products and services they offer to consumers. Integration of Internet products and services is occurring through development of competing products and through acquisitions of, or entering into joint ventures and/or licensing arrangements involving, competitors of the Company. Also, many other large media companies have announced that they are contemplating developing or acquiring Internet navigation services and are attempting to become "gateway" sites for Web users.

Following is a discussion of some industry competitors.

**America Online (AOL)** offers software to connect to an Internet service provider (ISP), browse the Internet (using the Netscape Browser) and find sites of interest through Compuserve. AOL provides what some industry analysts describe as "complete consumer online services." Its business is built around *the five Cs*: context (search, navigation and directory services), connectivity (ISP and direct connection), communication (email, chat), community (home pages, content), content (discussion, news, sports, etc.) and commerce (electronic transactions for processing the sale of goods and services).

In November of 1998, AOL acquired Netscape Communications in a stock-for-stock transaction valued at \$4.2 billion. AOL's 1999 revenues of \$4.8 billion consisted of \$3.3 billion in subscriptions, \$1 billion in advertising and commerce and \$0.5 billion in enterprise solutions. Its June 1999 market capitalization was approximately \$120 billion as AOL grew from 7.4 million subscribers in 1997 to 12.1 million subscribers in 1999.

**Microsoft Network (MSN)** products and services mirror the wide array offered by AOL but also include Microsoft product support.

**Yahoo!** The company evolved its business from a directory (prominently positioned on Netscape's original search page)—as opposed to a search engine—to a provider of Internet information services.

Yahoo! now also includes a search engine. This strategy has helped Yahoo! to achieve a market leadership position. Directories rely on people to screen Web sites. Consequently, directories are better able to assess the value of a Web site's content than are artificial agents. On the other hand, directories typically provide less scope when responding to a search query than artificial agents because of the time and expense in evaluating a Web site. The proliferation of search engine technology, however, has reduced the competitive advantage of any single search engine. Indeed, users increasingly are given the opportunity to see search results if the directory's output is insufficient.

Similar to Lycos, Yahoo! has been aggressively involved in acquisitions and joint ventures. Yahoo! derives its revenues principally from the sale of banner and sponsorship advertisements and revenues from e-commerce.

**Excite** is a search engine that competes with Lycos and Yahoo!. In 1998, Netscape and Excite signed a two-year agreement to develop a portal site. Netscape would commit 50 percent of its aggregate search exposures to its joint search service. Excite agreed to pay a substantial sum for its preferential location on Netscape's browser.

**Amazon.com** sells books, music and an expanding menu of other goods online. Amazon was one of the first companies to take advantage of the Internet's ability to acquire information about its customers as they shop. In turn, Amazon uses this information to help buyers make selections and to direct them toward other products of interest. Amazon initiated a number of innovations including its much copied affiliates program and its single click technology. Under the affiliates program sites that refer customers to Amazon (using links), receive a commission on items sold by Amazon.

Amazon was criticized in the financial press for \$900 million in accumulated net losses from its inception through 1999. Its CEO, however, argued that what is important for Amazon is to scale its business. He noted that because many of Amazon's software and customer service development costs are fixed, once these investments are in place, Amazon will have a competitive advantage in operating leverage in comparison to bricks and mortar retailers. Further, these systems (and the level of service they provide) serve as a barrier to entry for new e-tailers. (See for example, <http://www.commonwealthclub.org/archive/98/98-07bezos-qa.html>, July 27, 1998.)

Advertising revenues in traditional media depend on viewership and audience demographics.

(Table 5 provides the Nielsen ratings of the top 25 Web sites as of July 1999.)

<b>Table 5: Top 25 Web Properties of July 1999</b>			
<b>Rank</b>	<b>Property</b>	<b>Unique Audience (000s)</b>	<b>Time per Person (hrs: min: sec)</b>
1.	AOL Websites	34,973	0:30:40
2.	Yahoo!	31,022	1:08:49
3.	MSN	21,981	0:57:26
4.	Lycos Network	19,736	0:15:51
5.	GO Network	14,292	0:22:43
6.	Excite Network	11,711	0:39:40
7.	Microsoft	10,391	0:21:44
8.	Time Warner	8,982	0:17:20
9.	Amazon	8,075	0:16:43
10.	AltaVista	7,878	0:12:29
11.	Blue Mt. Arts	7,368	0:15:59
12.	eBay	5,685	2:48:29
13.	Snap	5,427	0:14:28
14.	CNET	4,919	0:11:29
15.	LookSmart	4,907	0:09:07
16.	Viacom Int'l	4,704	0:19:59
17.	Real Networks	4,545	0:06:07
18.	InfoSpace	4,519	0:09:48
19.	Xoom	4,248	0:09:30
20.	Broadcast.com	4,248	0:10:21
21.	About.com	4,058	0:05:36
22.	CNN	3,753	0:20:44
23.	AT&T	3,744	0:24:05
24.	GoTo.com	3,735	0:04:21
25.	ZDNet.com	3,705	0:14:25

Source: Nielsen//NetRatings August 17, 1999

By June of 1999, a consensus was forming that wireless, handheld devices combining voice and data were likely to be the *next big thing*. Companies such as Qualcomm, whose stock price soared by almost 400 percent from January to July, became the focus of investor attention. Many analysts expected a shake out and consolidation on the consumer side of the Internet, but there was still much to do on the business-to-business (B2B) side of the market.

## New Focus

In February of 1999, USA Networks proposed a merger with Lycos. The merger provoked controversy when the Lycos stock price dropped precipitously the day after the merger announcement. Within a few days, David Wetherell, a member of the Lycos Board of Directors as well as the chief executive of CMGI, publicly disagreed with Lycos's management on a fair price. The stock rebounded sharply when Wetherell resigned from the board and by mid-May it became clear that the proposed merger would fail. These events left industry observers to wonder whether Lycos could compete as a stand-alone portal. For

its part, Lycos formed its own venture capital fund and continued to aggressively pursue customers, acquisitions and joint ventures. Because Lycos was a developer and consumer of new technologies, its personnel were continuously exposed to the latest innovations. In July, Lycos decided to take advantage of this expertise and entered into a joint venture called Lycos Ventures to facilitate investment in Internet technology stocks.

## Financial Reporting in the New Economy

During 1999, many investors viewed the Internet as a dynamic medium for communications and as a source of innovative business models fueling the *new economy*. Many analysts made a clear distinction between companies in the new economy and the rest of the market. Investors gave dot.coms greater latitude in reporting profitability; as long as these stocks showed a consistent pattern of growth in market penetration and sales, prices soared. Analysts and the business press followed Internet advertising metrics or nonstandard measures of cash flows with anticipation greater than that traditionally associated with earnings.

Federal Reserve Chairman Alan Greenspan voiced concern that the market appeared to be driven by “unbridled optimism.” Between July 1998 and July 1999 the technology laden NASDAQ Composite Index soared 41 percent, rising from 1,914 to 2,711. In the same period, the Dow Jones Industrial Average rose from 8,883 to 10,655, a 20 percent increase apparently stimulated by the dot.coms; Amazon.com rose three times (from \$24.50 to \$71.25) and e-Bay rose almost nine-fold (from \$18 to \$156). These stock run-ups occurred even though most Internet companies reported significant net losses or, at best, very low levels of profitability. Attempting to justify rapid stock price growth in companies with negative current operating cash flows, many in the financial community claimed that the traditional cash or earnings based methods of equity valuation were archaic and irrelevant in the new economy.

By July of 1999, Lycos’s price-to-sales ratio reached 29, producing a market capitalization of almost \$4 billion on sales of \$135 million with a net loss of \$52 million. In contrast, The New York Times, an *old economy* media company, reported a modest price-to-sales ratio of slightly more than two. The New York Times’ market capitalization of about \$6 billion was based on 1998 net income of \$278 million and revenues of nearly \$3 billion. (See Table 6 for a three-year comparison of gross profit for The New York Times, Inc. and Lycos.)

<b>Table 6: Comparison of Lycos with <i>Old Economy Media Company</i></b>			
<b>Lycos Sales Gross Profit for the Years Ended July (000s)</b>			
	<b>1996</b>	<b>1997</b>	<b>1998</b>
Revenues:			
Advertising	\$4,478	\$17,417	\$41,768
Electronic commerce, license and other	779	4,856	14,292
Total revenues	5,257	22,273	56,060
Cost of revenues	2,901	4,336	12,513
Gross profit	2,356	17,937	43,547
<b>New York Times, Inc. for the Years Ended December (000s)</b>			
	<b>1996</b>	<b>1997</b>	<b>1998</b>
Revenues:			
Advertising	\$1,811,411	\$1,999,844	\$2,073,540
Circulation	659,818	672,662	678,784
Other	157,042	193,912	184,381
Total Revenue	2,628,271	2,866,418	2,936,705
Cost of Revenues			
Production costs			
Raw materials	363,503	323,285	354,085
Wages and benefits	557,543	604,924	598,508
Other	440,038	484,057	509,051
Total	1,361,084	1,412,266	1,461,644
Gross Profit	1,267,187	1,454,152	1,475,061
Source: Prepared by the authors based on publicly available data.			

## Reporting Issues for Lycos

### Revenue Recognition Policies

The *Lycos 1999 Annual Report* notes that the timing of revenue recognition depends on the nature of the revenue. Advertising revenues, often contracted by other Internet companies, comprise about 70 percent of Lycos's total revenues and generally are recognized when the services are performed. This policy applies to contracts in which customers are guaranteed a certain number of impressions for a fixed fee as well as contracts with a minimum fees plus a variable amount per impression. Contracts for slotting fees (advertising that is placed in particularly valuable contexts) tend to be of longer duration and revenues appear to be deferred until the service is performed.

Lycos's remaining revenues, approximately 30 percent, are from electronic commerce, direct fees and royalties from the sale of products or services at the company's Web sites, license and product revenues

from technology licensing activities and maintenance and support services. Revenue recognition policies for royalties from sales made by third-party vendors on Lycos's Web sites are not disclosed. Product and license revenues are recognized on product delivery, as long as there are no remaining obligations and collection of the receivable is probable. Product support fees are recognized ratably over the period of the support contract. When there are noncancelable agreements for future license and electronic commerce fees, Lycos records deferred revenues.

Even though most advertising transactions are for cash, some commentators have expressed concern about the reporting of barter transactions. A typical barter transaction occurs when two Internet businesses cross-advertise on one another's Web sites. Barter may be especially problematic in the Web's virtual environment because the cost of providing these services approaches zero. (See Robert Cringely for a cautionary view of barter transactions, <http://www.pbs.org/cringely/pulpit/pulpit19990923.html>, September 23, 1999.)

### Acquisitions and Intangible Assets

Like many other technology companies, Lycos relies heavily on acquisitions to assemble key capabilities and to enter new markets. These acquisition policies are necessitated by the pace of competition and fueled by the market valuations given to companies in this sector. As a result, Lycos recorded significant increases in its intangible assets over its brief history. Most acquisitions are accounted for as purchases in equity-for-equity exchanges. Because many of the companies are acquired for their developing technologies, the book value of the acquisition typically falls well below its market value. In recording these acquisitions, Lycos makes an accounting judgment to allocate the purchase price to the fair market value of tangible assets, goodwill and, in some cases, to in-process research and development that then is expensed.

(Table 7 summarizes selected accounting aspects of Lycos's acquisitions.)

Company	Date	Type	Goodwill	Price net of Liabilities	Shares
GuestWorld	June 16, 1998	Purchase	\$ 2,830,584	\$ 3,580,584	252,368
WhoWhere?	August 13, 1998	Purchase	\$161,322,174	\$159,058,863	8,285,714
Wired	June 30, 1999	Purchase	\$268,000,000	\$290,898,068	6,192,848
IMDI	July 27, 1999	Purchase	\$ 50,000,000	\$ 8,988,134	1,106,094

Source: Prepared by the authors based on publicly available data.

## Stock-Based Compensation

Like many technology companies, Lycos uses stock-based compensation extensively to recruit and retain employees. These plans allow Lycos to reduce its cash compensation to employees while providing the opportunity to share in the success (and failure) of the company. Lycos does not recognize compensation expense on its Income Statement for the value of awarded stock options. However, *SFAS123: Accounting for Stock-Based Compensation* requires a *pro forma* disclosure of the effect of stock-based compensation on income. A portion of this disclosure is given below.

	As Reported		Pro Forma	
	Net Loss	Loss Per Share	Net Loss	Loss Per Share
Year ended July 31, 1999	\$(52,043,564)	\$(0.60)	\$(132,022,235)	\$(1.53)
Year ended July 31, 1998	\$(28,439,484)	\$(0.46)	\$(35,442,185)	\$(0.57)
Year ended July 31, 1997	\$(6,619,190)	\$(0.12)	\$(9,588,118)	\$(0.17)

Source: Prepared by the authors based on publicly available data.

## Concluding Comments

From 1997 to mid-1999, something of a revolution was taking place in U.S. capital markets. An unprecedented number of start-up companies, mostly Internet *plays*, went from business plan to IPO virtually overnight. Astoundingly, the market greeted many of these companies with a generous equity capitalization despite the absence of a track record of earnings or operating performance, traditional indicators of value. Were investors irrationally chasing a speculative market bubble in Internet stocks? Or had, as some claimed, the world changed?

## Exhibit 1

<b>Consolidated Balance Sheet for the Years Ended 31, July</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>
<b>ASSETS</b>			
Current assets:			
Cash and cash equivalents	40,766,258	153,728,200	152,970,244
Accounts receivable (gross)	7,188,262	12,166,470	27,016,514
Allowance for doubtful accounts	(554,000)	(1,208,000)	(2,377,000)
Net accounts receivable	6,634,262	10,958,470	24,639,514
Electronic commerce and license fees receivable	9,065,806	30,223,986	71,843,202
Prepaid expenses	4,278,418	5,559,842	8,537,383
Other current assets	—	326,292	143,448
<b>Total current assets</b>	<b>60,744,744</b>	<b>200,796,790</b>	<b>258,133,791</b>
Property and equipment, less accumulated depreciation and amortization	2,397,600	3,960,059	7,471,230
Electronic commerce and license fees receivable	650,000	21,537,371	48,029,100
Investments	—	8,874,568	48,000,570
Intangible assets, less accumulated amortization	1,243,050	78,787,554	505,682,024
Other assets	383,615	3,278,994	7,325,353
<b>Total assets</b>	<b>65,419,009</b>	<b>317,235,336</b>	<b>874,642,068</b>
<b>LIABILITIES AND STOCKHOLDERS' EQUITY</b>			
Current liabilities:			
Notes payable—current	—	171,783	2,589,271
Accounts payable	3,289,513	4,873,302	1,381,721
Accrued expenses	7,387,707	17,277,168	22,438,326
Deferred revenues	11,928,990	31,412,239	64,016,249
Due to related parties	9,105		
<b>Total current liabilities</b>	<b>22,615,315</b>	<b>53,734,492</b>	<b>90,425,567</b>
Notes payable	—	140,749	2,599,729
Deferred revenues	5,100,000	26,159,754	55,934,152
Other liabilities	56,667	36,667	—
	<b>5,156,667</b>	<b>26,337,170</b>	<b>58,533,881</b>
Commitments and contingencies			
Common Stock at par of \$01	275,932	779,832	967,071
Additional paid-in capital	49,368,940	277,736,666	801,494,011
Deferred compensation	(185,436)	(116,338)	(69,802)
Accumulated deficit	(11,812,409)	(40,251,893)	(92,295,457)
Treasury stock, at cost, 1,814,893 shares at July 31, 1999 and 1,417,348 shares at July 31, 1998	—	(984,593)	(3,286,293)
Accumulated other comprehensive income	—	—	18,873,090
<b>Total stockholders' equity</b>	<b>37,647,027</b>	<b>237,163,674</b>	<b>725,682,620</b>
<b>Total liabilities and stockholders' equity</b>	<b>65,419,009</b>	<b>317,235,336</b>	<b>874,642,068</b>

## Exhibit 2

<b>Consolidated Income Statement Year Ended 31 July</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>
Revenues:				
Advertising	4,478,474	17,417,388	41,768,607	93,440,262
Electronic commerce, license and other	778,753	4,855,654	14,291,698	42,080,564
Total revenues	5,257,227	22,273,042	56,060,305	135,520,826
Cost of revenues	2,900,808	4,335,941	12,513,259	28,726,949
Gross profit	2,356,419	17,937,101	43,547,046	106,793,877
Operating expenses:				
Research and development	906,591	4,301,267	9,477,708	26,279,267
In process research and development	452,000	—	17,280,000	—
Sales and marketing	4,747,805	19,126,317	35,035,754	78,807,148
General and administrative	1,692,362	2,718,763	5,631,104	16,249,670
Amortization of intangible assets	359,868	540,416	7,613,711	52,427,704
Total operating expenses	8,158,626	26,686,763	75,038,277	173,763,789
Operating loss	(5,802,207)	(8,749,662)	(31,491,231)	(66,969,912)
Interest income	714,369	2,130,472	3,051,747	6,166,942
Equity share of losses in affiliates	—	—	—	(1,360,425)
Gain on sale of investments	—	—	—	10,119,831
Net loss	(5,087,838)	(6,619,190)	(28,439,484)	(52,043,564)
Basic and diluted net loss per share	(\$0.21)	(\$0.12)	(\$0.46)	(\$0.60)
Shares used in computing basic and diluted net loss per share	23,984,830	55,178,972	61,865,964	86,428,459

## Exhibit 3

<b>Selected Ratios</b>	<b>Jul-96</b>	<b>Jul-97</b>	<b>Jul-98</b>
Current ratio	5.22	2.69	3.73
Quick ratio	5.11	2.50	3.62
Working capital per share	0.72	0.69	1.92
Cash flow per share	(0.08)	(0.10)	(1.23)
Receivables turnover	2.43	2.22	1.97
Total assets turnover	0.19	0.37	0.36
Average collection period (days)	150.00	164.00	185.00
Sales/net property, plant and equipment	3.74	9.29	14.16
Sales/stockholder equity	0.12	0.59	0.33
Sales growth (%)	324	152	142
Gross margin /sales	.81	.78	.79
Operating margin before depreciation (%)	(89.56)	(33.58)	(9.05)
Operating margin after depreciation (%)	(101.77)	(39.28)	(13.92)
Pretax profit margin (%)	(96.79)	(29.72)	(172.88)
Return on assets (%)	(9.48)	(10.12)	(38.96)
Return on equity (%)	(11.54)	(17.58)	(57.45)

## Exhibit 4

<b>Statement of Changes in Financial Position</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>
<b>Operating activities</b>				
Net loss	(5,087,838)	(6,619,190)	(28,439,484)	(52,043,564)
Amortization of deferred compensation	234,344	141,658	46,536	46,536
Amortization of intangible assets		540,416	7,613,711	52,427,704
Depreciation	642,218	728,648	1,525,132	3,554,128
Allowance for doubtful accounts	200,000	405,000	654,000	1,169,000
Gain on sale of investments	—	—	—	(10,119,831)
Equity share of losses in affiliates	—	—	—	1,360,425
In process R&D expense	452,000	—	17,280,000	—
Issuance of common stock for services	—	—	300,000	—
Accounts receivable	(3,454,950)	(3,745,337)	(4,768,973)	(6,206,871)
Elctr comm and license fees receivable	(1,984,221)	(7,731,585)	(42,045,551)	(68,110,945)
Prepaid expenses	(981,711)	(3,296,707)	(1,258,140)	(1,675,051)
Other current assets	—	—	(326,292)	182,844
Other assets	(167,615)	(216,000)	(2,895,379)	(3,272,683)
Accounts payable	2,600,071	547,634	774,033	(6,321,113)
Accrued expenses	1,735,693	5,641,289	8,343,512	(9,333,937)
Deferred revenues	3,125,285	12,478,136	40,450,223	60,432,726
Other liabilities	1,726,092	(449,495)	(29,105)	(36,667)
Net cash used in operating activities	(960,632)	(1,575,533)	(2,775,777)	(37,947,299)
<b>Investing activities</b>				
Purchase of property and equipment	(1,632,079)	(1,818,798)	(1,091,988)	(1,746,930)
Payments under license agreement	(750,000)			
Sale of investment	—	—	—	12,158,790
Cash acquired through acquisitions, net	17,137	—	2,540,619	21,750,667
Investment in affiliates	—	—	(992,125)	(5,120,296)
Net cash provided by (used in) investing activities	(2,364,942)	(1,818,798)	456,506	27,042,231
<b>Financing activities</b>				
Proceeds from issuance of common stock, net of offering costs	46,021,314	18,402	111,190,866	—
Proceeds from exercise of stock options	—	—	3,241,887	15,543,444
Proceeds from issuance of common stock under ESP Plan		—	66,042	247,491
Proceeds from exercise of warrants		—	1,250,007	—
Repayments of notes payable		—	—	(3,342,123)
Cash used to repurchase treasury stock		—	(467,589)	(2,301,700)
Proceeds from capital contribution	1,000,000		—	—
Net cash provided by financing activities	47,021,314	18,402	115,281,213	10,147,112
Net increase (decrease) in cash and cash equivalents	43,695,740	(3,375,929)	112,961,942	(757,956)
Cash and cash equivalents at beginning of year	446,447	44,142,187	40,766,258	153,728,200
Cash and cash equivalents at end of year	44,142,187	40,766,258	153,728,200	152,970,244