



THOMAS EISENMANN

SMITA BAKSHI

SEBASTIEN BRIENS

SHAILENDRA SINGH

Google, Inc.

*You can probably build a nice little company based on web search technology, but you can't build an empire on it.*¹

—Louis Monier, AltaVista founder, April 2001

*Some say Google is God. Others say Google is Satan. But if they think Google is too powerful, remember that with search engines, unlike other companies, all it takes is a single click to go to another search engine. People come to Google because they choose to. We don't trick them.*²

—Sergey Brin, Google cofounder

In early 2004, Silicon Valley and Wall Street waited eagerly for Google's initial public offering (IPO). Some analysts speculated that the Mountain View, California-based company's valuation might reach \$15 billion–\$25 billion and expected Google to raise as much as \$2 billion in new equity.^{3,4} The company's technology powered over 75% of Web searches in the U.S. and a large share in international markets.⁵ In late 2003, Google was estimated to earn \$350 million in annualized pretax profits on \$900 million in revenue.

Despite Google's impressive performance, there was substantial disagreement about the company's prospects. Yahoo! and Microsoft's MSN were investing heavily in in-house search solutions. Google's reliance on its partnership with America Online (AOL) was another potential obstacle. If AOL abandoned this partnership, Google would lose a significant share of its revenue.⁶

Internet marketing expert Seth Godin expressed concerns about Google's strategic position:

I think Google is terrific. I use it a hundred times a day, but it's very, very transparent. That, of course, is part of its appeal. Google doesn't have a point of view. . . . You tell it what you want and—boom—it disappears and replaces itself with what you ask for.

That's a great experience, but it's not the foundation for a great business. Being transparent in a world where there's no real long-term barrier to entry is a risky business. If someone else introduced a quantum leap in search, something with a great value proposition, sexy interface, and clever name, there's nothing at all Google could do to keep people from walking out. There's no switching cost.⁷

Professor Thomas Eisenmann and HBS MBA candidates Smita Bakshi, Sebastien Briens, and Shailendra Singh prepared this case. This case was developed from published sources. HBS cases are developed solely as the basis for class discussion. Cases are not intended to serve as endorsements, sources of primary data, or illustrations of effective or ineffective management.

Copyright © 2004 President and Fellows of Harvard College. To order copies or request permission to reproduce materials, call 1-800-545-7685, write Harvard Business School Publishing, Boston, MA 02163, or go to <http://www.hbsp.harvard.edu>. No part of this publication may be reproduced, stored in a retrieval system, used in a spreadsheet, or transmitted in any form or by any means—electronic, mechanical, photocopying, recording, or otherwise—without the permission of Harvard Business School.

Godin and contributors to his discussion group suggested dozens of ways that Google could increase switching costs. For example, Google could introduce technology that tracked individual users' search histories. Then, with a user's permission, Google could regularly e-mail links that were likely to be relevant, given the user's personal interests.

Was personalized search the answer for Google? Could the company capture growth opportunities in localized search, an underdeveloped arena for online marketers? Should Google layer more content and features into Google.com, converting the site into a full-fledged, mass-market portal such as AOL, MSN, or Yahoo!? Or, should Google avoid head-to-head competition by merging with a portal?

The Early History of Web Search

After the first browsers became available in 1992, the number of Web sites grew rapidly, and users required help finding information on the World Wide Web.⁸ In 1994, Stanford Ph.D. candidates David Filo and Jerry Yang responded to this need by launching a directory—subsequently named Yahoo!—that organized their favorite links into categories.

The following year, a Digital Equipment Corporation team led by Louis Monier invented a way to store the text of every Web page in a fast, searchable index. This project evolved into AltaVista, the first large-scale search engine that used algorithms rather than human editors to rank Web-page relevance. By the end of 1995, AltaVista had indexed 20 million pages, far more than Yahoo!'s directory. Soon after, Yahoo! added AltaVista's algorithmic search engine to its service.

AltaVista's success attracted many competitors, most notably Inktomi. Founded in 1996, Inktomi configured workstations into a parallel-processing network that could outperform AltaVista in terms of speed and index size. In 1998, Yahoo! replaced AltaVista with Inktomi.

As the Internet grew to encompass more than 700 million sites by mid-1998, search providers had difficulty meeting users' expectations for simplicity, comprehensiveness, relevance, and speed. One serious problem was the proliferation of search "spam." These irrelevant commercial listings exploited algorithms that ranked pages based on the number of times they referenced a search keyword.

Google's History

Recognizing the need for greater relevance, Stanford graduate students Sergey Brin and Larry Page devised a method to rank a page based on how frequently it was referenced ("linked") by other pages.⁹ Their PageRank™ algorithm, when coupled with ample computer-processing and storage capacity, was able to deliver extremely fast, reliable searches.

When Google, the company launched by Brin and Page, announced first-round funding from Sequoia Capital and Kleiner Perkins in June 1999, its investors' prestige grabbed headlines. However, for the next several months, Google's superior technology and rapidly expanding user base did not attract much attention. Google reappeared on the industry's radar in June 2000, when Yahoo! announced it would replace Inktomi's search technology with Google's. At the time, Google's comprehensive index of 1 billion Web pages surpassed rivals' search capacity.

In March 2001, Google hired Eric Schmidt as its CEO. Previously, Schmidt had been the CEO of Novell, a leading network software company, and chief technology officer of Sun Microsystems, where he led the team that developed the Java programming platform. The following month, Google reached a milestone when it was named the number one U.S. search engine by MediaMetrix, a Web-traffic tracking service. The company's remarkable growth had been fueled almost entirely by word of mouth; Google had spent very little on end-user marketing.

By 2003, Google had 1,300 employees, including over 60 Ph.D.s. Through its own Web site, Google.com, and through licensees, which included Yahoo! and AOL, Google powered over 75% of the 300 million searches conducted daily in the U.S. and a large share of the 300 million-plus searches conducted daily outside the U.S. (see **Exhibit 1**). In February 2003, Google.com alone accounted for 31% of U.S. searches and had 73.5 million unique visitors.¹⁰ The company provided an interface for 88 languages, and half of Google.com's traffic originated outside the U.S.¹¹

Google's Search Technology

During the late 1990s, Yahoo!, Lycos, Excite, AltaVista, and other sites that provided search and directory services shifted their strategies. Instead of quickly linking users to third-party destinations, the sites encouraged users to linger, since their ad revenue increased in direct proportion to the number of pages viewed. Directories and search engines evolved into "portals" as they added content and "sticky" features such as e-mail and chat rooms.

Google avoided positioning Google.com as a portal, choosing to preserve the simplicity of its user interface. In addition, Google focused on comprehensiveness. Google had clustered thousands of low-cost Linux Web servers in order to index more than 3 billion Web pages. Google updated its index using software "spiders," programs that "crawled" over Web pages, examining their contents. It took weeks to update the entire index, although certain pages—such as news sites—were updated more frequently than others.

Finally, Google emphasized the relevance of its search results. Its PageRank technology examined all the hypertext links from other Web pages to a focal page. These links were called "votes," because they signaled that another page's Webmaster had decided that the focal page deserved attention. The focal page's importance was determined by counting the number of votes it received, weighting votes more heavily when they were cast by pages that Google had previously deemed to be important. This approach required PageRank to solve an equation with 500 million variables and 3 billion terms.¹²

As Google's market share increased, the company faced the challenge of preventing manipulation by spammers who created dummy sites with thousands of links to pages that they wanted Google to rank highly. In addition, Google was criticized because its link-based ranking did not employ actual traffic analysis. Brin acknowledged this concern, saying, "One consequence of this [PageRank] approach is that sites like gulfwarveterans.com, which maintain a consistent focus on one issue, are more likely to accrue lots of links than a transient news story, even one on a major site."¹³

Creating Value for Advertisers

An estimated 40% of Web searches had a commercial motivation—that is, the user wanted information about a product or service provider.¹⁴ The "paid search" business emerged to monetize this traffic. Paid search generated \$2 billion worldwide in revenue in 2003 and was projected by Piper

Jaffray to grow at a 37% compound annual rate to \$7 billion by 2007. U.S. advertisers were expected to account for about 70% of worldwide paid search revenue in 2007, down from about 90% in 2003.¹⁵

Paid Listings: GoTo.com

GoTo.com, a start-up launched in June 1998, pioneered paid listings. Paid listings were short text ads that appeared with Web search results in response to specific keyword queries. Depending on the site, paid listings either appeared adjacent to the basic search results or were interspersed but clearly identified as “Sponsored Links.” GoTo’s paid listings were ordered from top to bottom on the results page based on the amount that advertisers bid for a keyword. Advertisers only paid this amount when a user actually clicked on their listing, a practice known as “cost-per-click” (CPC) pricing.

GoTo.com’s business model was premised on two tenets. First, leads generated by a search engine resulted in more revenue than banner ads, the dominant Web advertising vehicle. In fact, 70% of all e-commerce transactions originated through search.¹⁶ Consequently, clickthrough rates for paid listings were much higher than rates for banners. Web marketing expert Jakob Nielsen explained, “Displaying an ad for something that the user immediately wants is much more powerful than targeting [banner] ads based on general user profiling and demographics.”¹⁷

The second tenet was that ordering paid listings based on CPC auction bids yielded highly relevant results. Users tended to click only on the first few listings within search results, ignoring lower-ranked items. Consequently, marketers would bid aggressively for the top listings. Since advertisers paid whenever a user clicked on their listings, they had an incentive to bid only for keywords that were related to their products; paying for clickthroughs that could never yield sales would be wasteful. Following the same logic, the marketer whose products most closely matched a searcher’s needs would probably convert the highest share of listing clickthroughs into sales and could therefore afford to bid the most for the top position.

In 2000, GoTo.com abandoned efforts to build a destination site and instead concentrated on supplying paid listings to portals and other Web sites—“network affiliates”—in exchange for a share of the revenues generated by their search traffic. GoTo’s model proved successful. In April 1999, when the company completed its IPO, it had 6,000 advertisers. By the end of 2001, GoTo.com—subsequently renamed Overture—had more than 45,000 advertisers and reached 75% of Internet users through its network affiliates, which included AltaVista, AOL, Microsoft’s MSN, Terra Lycos, and Yahoo! (see **Exhibit 2** for Overture financials).¹⁸

Google’s AdWords

In December 1999, Google.com introduced its first advertising through a keyword-based program later named Premium Sponsorship.¹⁹ Unlike Overture’s CPC paid listings, Premium Sponsorship ads were priced on a cost-per-thousand (CPM) basis—that is, the marketer was charged a fixed amount each time the ad was viewed, regardless of whether the viewer clicked on the ad. Google’s text ads were shaded, labeled as “Sponsored Links,” and placed in two boxes above the Web search results (see **Exhibit 3**). Despite these moves to distinguish ads from search results, some observers felt Google had disregarded its founders’ design goals. In their 1998 paper, “Anatomy of a Large-Scale Hypertextual Web Search Engine,” Page and Brin had voiced reservations about advertising-supported search:

Currently, the predominant business model for commercial search engines is advertising. The goals of the advertising business model do not always correspond to providing quality search to users. For example, in our prototype search engine one of the top results for cellular phone is "The Effect of Cellular Phone Use Upon Driver Attention," a study that explains in great detail the distractions and risk associated with conversing on a cell phone while driving. This search result came up first because of its high importance as judged by the PageRank algorithm, an approximation of citation importance on the web. It is clear that a search engine which was taking money for showing cellular phone ads would have difficulty justifying the page that our system returned to its paying advertisers. For this type of reason and historical experience with other media, we expect that advertising funded search engines will be inherently biased towards the advertisers and away from the needs of the consumers.²⁰

Consistent with these concerns, 2003 survey data from Forrester Research indicated that 42% of North American online consumers agreed with the statement, "I don't trust paid listings," and 37% agreed, "I wouldn't use a search engine where sites paid to have their listings displayed first."²¹

Nevertheless, in November 2000, Google introduced AdWords, a CPM-based paid-listing program. On Google.com, AdWords listings were displayed in a column to the right of the Web search results (see Exhibit 3). Like Overture's offering, AdWords was fully automated; marketers used a Web site to specify keywords, determine costs, submit ad copy, and provide billing information. In February 2002, Google announced it would provide AdWords (along with Web search results) to Earthlink, a large U.S. Internet service provider (ISP), displacing Overture.

In February 2002, Google introduced AdWords Select, which auctioned the top positions within its AdWords listings on a CPC basis. Unlike Overture, which ordered ads based on the amount bid for a given keyword, Google's AdWords Select ranking was based on the advertiser's maximum CPC bid (the most it was willing to pay, on a CPC basis), weighted by the ad's actual clickthrough rate (CTR) relative to expectations. These expectations were based on CTRs for other ads that previously had appeared in the same positions.²² According to Google, this ranking method ensured that users saw the most relevant ads first. Critics, however, charged that Google's approach was confusing and made it difficult for marketers to predict where their ads would be positioned and how much they would cost.²³

As with rankings, the cost of AdWords Select listings was adjusted based on CTRs relative to expectations. An advertiser would pay less than the maximum CPC it had bid, to the extent that its ad's CTR exceeded norms for competing ads that had bid the same maximum CPC. This pricing method ensured that an advertiser would never be charged more to occupy a given position (say, the top spot for a keyword) than the revenue Google could otherwise generate from the next-most productive occupant of that position (for example, a rival that offered the same maximum CPC bid but whose ads achieved a lower CTR).

Initially, some analysts dismissed the threat to Overture from AdWords Select, noting that Overture had signed up the three leading portals—AOL, MSN, and Yahoo!—and, at the time, had a much larger advertiser base than Google. However, sentiment shifted in May 2002, when Google announced that it would provide both Web search and paid-listings results to AOL.

Competing for Affiliates and Advertisers

By 2003, the paid-listing business had evolved into a near duopoly: Overture and Google controlled 90% of the global market. A few smaller players, including FindWhat.com, divided the remaining 10%.²⁴ Prospective entrants to the paid-listing business faced significant expenditures.

Overture, for example, had invested 300 full-time employee years through April 2002 developing the software and server infrastructure that supported self-provisioning and the rapid, reliable delivery of paid listings.²⁵ Overture had also invested heavily in developing a telesales force that covered 3,000 accounts responsible for 30% of Overture's revenue in early 2002.

Although Google had acquired more advertisers than Overture by late 2003—150,000 versus 100,000—Google's 35% share of the global paid-listing market in 2003 lagged behind Overture's 55% share. At that time, Google.com and its AdWords network affiliates provided paid-listing advertisers with access to nearly 55% of Internet search volume, while Overture's affiliates provided access to nearly 45% of total search volume.²⁶

Overture claimed to offer advertisers excellent conversion rates—clickthroughs that resulted in a sale. To boost conversion rates, Overture had employed software tools and a 100-person product-quality team that screened advertiser listings for relevance and suggested ways to improve ad content or keyword selections.²⁷ This assistance was valued by paid-listing advertisers, since most of them were small and lacked sophisticated marketing capabilities. According to Jupiter Research, large companies with total media budgets in excess of \$1 million accounted for only 12% of paid-listing accounts and about 20% of paid-listing revenues.²⁸

A paid-listing provider's ability to guarantee network affiliates a steady stream of revenue depended on four factors: its coverage ratio, clickthrough rates, average cost per click, and revenue split. The coverage ratio—the share of queries for which at least one paid listing was sold—was jointly determined by a network affiliate's propensity to generate commercially motivated queries and the size of the paid-listing provider's advertiser base. Clickthrough rates on paid listings were expected to increase modestly over time as advertisers improved their keyword targeting techniques. Average CPC increased with the size of the paid-listing provider's advertiser base, as additional bidders drove up keyword CPCs. In late 2003, Overture's average CPC was estimated to be \$0.40, an increase from \$0.24 in the second quarter of 2002 when Overture had 60,000 advertisers. Google's average was \$0.30 (see Exhibit 4 for forecasts of industry coverage ratios, clickthrough rates, CPC, and total U.S. paid-listing revenues).²⁹

Splits—the percentage of ad revenue that listing providers paid to network affiliates—were determined by the parties' relative bargaining strengths and the intensity of rivalry among listing providers. In late 2003, Overture was estimated to pay an average of 65% of paid-listing revenue to its affiliates; at that time, Google's split was estimated to be 70%.³⁰ Large portals negotiated higher splits—Yahoo!, for example, was estimated to receive 70% in March 2003, when Overture's overall split was 61%. Splits for second-tier portals might be 55% or lower.³¹

New Opportunities in Contextual and Local Advertising

In early 2004, Google, Overture, and other companies were seeking to exploit the emerging market for contextual advertising. Contextual ads were paid listings that appeared, not adjacent to search results, but rather on the editorial pages of Web sites providing news or lifestyle information that was related to an advertiser-specified keyword. For example, at the bottom of a page on allergies within iVillage.com (a Web site that focused on women's issues), a sponsored link offered a hypnosis program—"safe, fast, & guaranteed"—to end allergy symptoms. Google and other companies with Web search technology had an advantage in selling such advertising, because they could map keywords to appropriate editorial pages.

Overture forecast that contextual advertising could be a \$2 billion market by 2008.³² Google and Overture (which launched contextual ads in February and June 2003, respectively) faced two main

challenges in developing this market. First, contextual advertising was perceived by marketers to be less effective in generating sales than paid listings adjacent to search results, because visitors to Web pages presenting editorial content were less likely than searchers to be “ready to buy.” Second, the automatic algorithms used to map keywords to editorial pages sometimes made mistakes. For example, according to *BusinessWeek*, “a gruesome *New York Post* article about hacked-off body parts found in a deserted suitcase included three Google links to online luggage shops.”³³

Localized search represented another major growth opportunity. Although 15% to 25% of Web searches targeted local content, this traffic typically had not been monetized.³⁴ Through 2003, most paid listings had been sold to small and medium-sized enterprises (SMEs) that shipped their products nationwide. However, according to The Kelsey Group, the vast majority of the 10 million SMEs in the U.S. sold products or services to customers within a 50-mile radius. These SMEs spent \$22 billion on local advertising, including \$10 billion on print Yellow Page listings. According to The Kelsey Group, search-engine advertising could replicate the Yellow Pages value proposition for the 30% of SMEs that had Web sites, delivering qualified leads who were ready to buy.

Although many companies hoped to exploit localized paid listings, only a few had launched services. In September 2003, Google introduced a beta service called “Search by Location” with two side-by-side boxes, one for search terms, the other requesting an address, city name, or zip code. A search yielded a list of nearby vendors, with the top 10 listings plotted on a map above the results. While Google’s beta service did not deliver local paid listings, they could easily be added.

As of early 2004, the industry leader in developing local paid listings was CitySearch, a unit of InterActiveCorp, which offered local information on entertainment options, restaurants, and shopping for dozens of different markets. In March 2003, CitySearch introduced a keyword-based, cost-per-click advertising program linked to its local search results.³⁵ CitySearch had two advantages in monetizing local search. First, the company had 130 field and inside sales reps who could explain keyword marketing to their clients. While SMEs selling products nationwide had embraced the “pull” of self-provisioning, a “push” approach might be needed to sell local paid listings.

Second, CitySearch had a directory of local marketers; it did not need to rely on computer algorithms to infer the appropriate category for a Web page referencing a local business. As with contextual advertising, automated indexing could result in errors. For example, Searchenginewatch.com reported that searching for “pizza in san francisco” on Google’s beta site had yielded a link to a Salon.com article titled “Pizza Porn,” about an establishment in Ohio where the manager videotaped an encounter with an employee.³⁶

Competition

In early 2004, the leading portals perceived Google’s dominance in Web search as a serious competitive threat. Yahoo! and Microsoft had committed to strengthen their in-house search capabilities. By contrast, AOL’s managers—at least in their public statements—seemed willing to continue to rely on Google for Web and paid search results.

Yahoo! Faster. Easier. Bingo?

Starting in 2001, search emerged as a major source of revenue for Yahoo!, which was struggling with a significant industrywide decline in banner advertising. In 2002, Overture’s paid listings accounted for 14% of Yahoo!’s \$953 million in revenue.³⁷ That year, Yahoo! embarked on a strategy that would reduce the company’s reliance on outside parties for search solutions. In October 2002,

Yahoo! renewed its contract with Google on a nonexclusive basis. The new contract allowed Yahoo! to use other search technologies at its discretion. Two months later, Yahoo! announced it was acquiring Inktomi for \$235 million.³⁸

In April 2003, Yahoo! revamped its search home page at search.yahoo.com, offering an interface similar to Google's, with tabs for Web, image, directory, Yellow Pages, news, and product search. Yahoo! followed with an ad campaign that promised that the new Yahoo! Search would be as convenient and simple as its new slogan: "Search. Faster. Easier. Bingo."

In July 2003, Yahoo! acquired Overture in a stock deal valued at \$1.6 billion. A few months prior to this transaction, Overture had acquired two Web search technology providers. Overture had paid \$140 million for AltaVista's search technology and its much-diminished portal—which reportedly would serve as a test bed for new technology. Overture had also paid \$70 million for the Norwegian company FAST, whose crawler AllTheWeb provided search results to Lycos and many international Web sites.

Microsoft: A Long Wait for Longhorn?

Google's rise had captured Microsoft's attention, too. In February 2003, answering questions about the next version of the Windows operating system, scheduled for release in 2006 and code-named Longhorn, Microsoft Vice President Jim Allchin said dismissively, "Google's a very nice system, but compared to my vision, it's pathetic."³⁹

Microsoft managers had hinted at plans to integrate search capabilities tightly into Longhorn and emphasized the value of tools that could quickly and flexibly search both the Internet and the contents of a PC user's hard drive, using spidering and indexing technologies. One experimental Microsoft application, called "Implicit Query," automatically retrieved Web-page links, e-mails, music files, and other materials relevant to the text a user was entering in a foreground application such as Word without the user providing any explicit search instructions.⁴⁰

Microsoft was also investing heavily in personalized search technologies. Microsoft Senior Researcher Susan Dumais commented, "Search in many ways is brute force. If the two of us type in a query, we get the same thing back, and that's just brain dead. There is no way an intelligent human being would tell us the same thing about the same topic." Personalized search technologies would track an individual's habits, travel/meeting history, and projects and draw inferences about what they would find important. Dumais offered an example: "I have the same meeting every week with the same people. Maybe that isn't so important. I have a meeting with Bill Gates. He's pretty high on the org chart. Maybe that one is important."⁴¹

In the near term, Microsoft's MSN portal was trying to improve its search service. MSN's search was largely outsourced to third parties, with Looksmart providing its directory, Overture supplying paid listings, and Inktomi powering algorithmic search. Observers speculated that Microsoft would be reluctant to rely on Yahoo!-owned Overture and Inktomi for mission-critical technologies and noted that the software giant was busily patenting new search algorithms.

In November 2003, MSN announced it had hired Paul Ryan, formerly chief technology officer of Overture, to head its search efforts. At the same time, *The Wall Street Journal* reported acquisition discussions between Microsoft and Google. Microsoft CEO Bill Gates subsequently denied that such talks had occurred.⁴²

What Should Google Do?⁴³

If they force users to use MSN Search and it's inferior, it will cause lots of problems for them. I wouldn't pursue anything—what's the buzzword, sticky?—for the sake of having something sticky. Users will put up with it for a while, but at the first opportunity they'll change. So I'm not a big fan of handcuffing.⁴⁴

—Sergey Brin

Google had developed a broad range of innovative search solutions. As of early 2004, Google.com's home page included Web search as well as tabs for four additional services:

- **Images.** Google's "images" tab contained an index of 425 million still images. The company had not yet introduced video and audio search products. Although industry experts expected strong demand for multimedia search, given the proliferation of technology for producing, sharing, and storing digital media files, start-ups in this area were still struggling.
- **Groups.** In 2001, Google acquired the Usenet discussion service from Deja.com, including its archive of more than 500 million postings dating back to 1981. Google.com users could search for a discussion topic and add postings to a news group.
- **Directory.** Google used its PageRank technology to order, by subject category, 1.5 million URLs that had been identified by thousands of volunteers through Netscape's Open Directory Project.
- **News.** Google News, a beta service in early 2004, was compiled from 4,500 news sources worldwide. Google News employed computer algorithms to identify the most relevant stories within a topic area (e.g., world, U.S., business, health), then, by story, grouped links to different news sources, allowing users to see how they covered the story.

Google had introduced other search solutions, including:⁴⁵

- **Google Wireless.** Google's wireless search technology translated Web pages into a language understood by handheld devices. Licensees included Sprint PCS, Cingular, Nextel, Bell Mobility (Canada), Yahoo! Everywhere, Vizzavi, and Palm.
- **Google Toolbar.** Google's downloadable toolbar could be embedded permanently in a user's Web browser. In addition to a Web search box, the Google Toolbar included tools for blocking pop-up ads, automatically filling out Web-page forms, and creating "blog" postings pointing to a Web page. Blogs, short for "Web logs," were diaries in Web-page form that presented personal ruminations on almost any topic. In early 2003, Google had acquired Pyra Labs and its Web site, Blogger.com, which offered tools for creating Web logs.
- **Froogle.** Froogle, a beta service in early 2004, allowed users to search for information about products for sale online (see Exhibit 5). Froogle employed algorithms to display the product listings most relevant to a query. Google did not collect a referral fee when users clicked through Froogle listings to a merchant's site. Instead, Froogle traffic was monetized by selling paid listings that were displayed to the right of the main search results.
- **Google Catalog.** Catalog Search, a beta service in early 2004, allowed users to search hundreds of print mail-order catalogs not previously available online. The catalogs had been scanned, analyzed, and indexed by Google.

Despite these and other initiatives, some analysts argued that Google's leadership position in Web search was not sustainable. They asserted that the quality of Google's searches was vulnerable, because the company's scale encouraged relentless efforts to boost Web site rankings by "tricking" Google's algorithms. Google's scale might also become a liability in responding to challengers with new and improved search technology if the company's ability to modify its algorithms and database architecture was constrained by its server infrastructure and the size of its index.⁴⁶

Google's business model had also become complex. Google depended on both Google.com and mass-market portals for its revenue. However, Yahoo! and MSN were threatened by the success of Google.com and seemed likely to introduce in-house search solutions. If AOL followed suit or adopted rival search technologies, could Google sustain critical mass in the paid-listing business?

In the face of these competitive threats, Google could stay the course and focus on the company's distinctive competence: developing superior search solutions. This approach offered many avenues for growth. Despite technological advances, as of year-end 2003, only 50% to 65% of Web search queries were answered properly,⁴⁷ so Google could profit by continuing to innovate in its core Web search business—in particular, by harnessing personalization technologies. Growth prospects also seemed strong in new fields, including localized, multimedia, and product search as well as indexing private (e.g., enterprise) databases.

Another approach would be to compete head to head with Yahoo! and MSN by adding a broad range of content, services, and productivity/communications tools to Google.com. These could include "channels" with information and transactional services related to autos, travel, sports, and finance; games; maps; personal listings; tools to support e-mail, chat, and instant messaging; and so forth. Google would have many advantages in converting Google.com into a mass-market portal: the site had a powerful brand, enormous traffic, and access to leading-edge engineering talent. Historically, however, late movers into the portal business had not fared well; Disney and NBC, for example, had each lost hundreds of millions of dollars on failed efforts to challenge AOL, MSN, and Yahoo!

Rather than build a new mass-market portal, Google could merge with an established player—and lock in a large volume of Web and paid search traffic in the process. Microsoft had been frequently mentioned in this context, but AOL was also a plausible candidate; some analysts and investors had called for Time Warner to divest its troubled Internet unit.

Regardless of the path that Google's managers pursued, any strategy that required heavy investment was not likely to be a problem once the company completed its IPO.

Exhibit 1 U.S. Search Traffic Market Share, August 2003

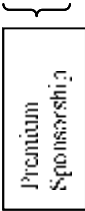
Site	Share
Google.com	31%
Yahoo!	26%
AOL	20%
MSN	17%
Ask Jeeves	2%
Other	4%

Source: Adapted from Chad Bartley and Steve Weinstein, "High Growth in Search Creates Opportunities for Niche Players," Pacific Crest Securities, November 2004, p. 2, citing comscore MediaMatrix.

Exhibit 2 Overture Services Income Statements, 2001–2003

	Six Months Ended June 30		Twelve Months Ended December 31	
	2003	2002	2002	2001
Revenue	\$490.1	\$295.3	\$667.7	\$288.1
Operating Expenses				
Search serving	30.2	14.7	32.7	21.0
Traffic acquisition	313.1	158.4	384.6	162.1
Sales, marketing, & service	39.0	23.5	55.2	28.1
General & administrative	56.1	33.6	75.6	44.9
Product development	2.0	0.8	1.8	2.0
Amortization of deferred compensation and intangibles	18.0	9.4	19.4	12.8
Litigation loss	(3.0)	--	8.7	--
	454.5	240.8	578.0	273.9
Operating income	35.6	54.5	89.7	14.2

Source: Company SEC filings.



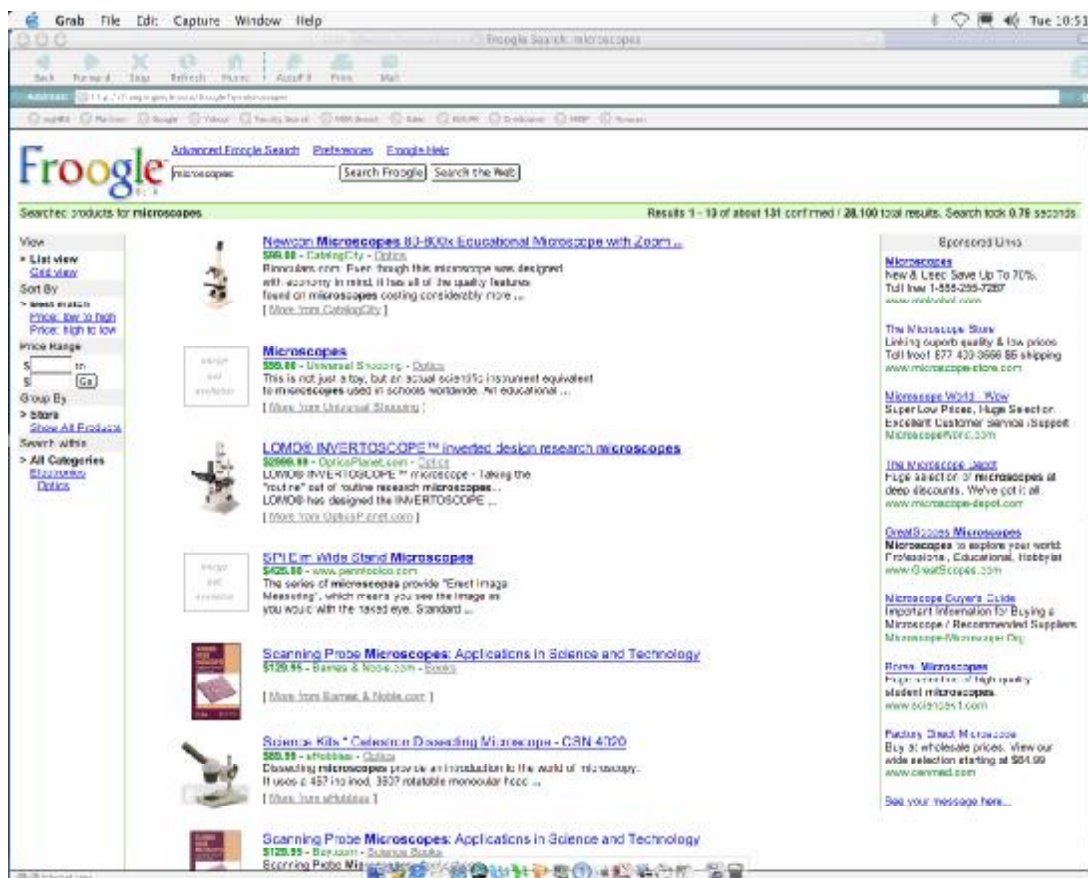
AdWords

Exhibit 4 Performance Forecast for U.S. Paid Listings, 2002–2003

	2002	2003	2005	2007
Searches per Day (million)				
High	250	300	370	410
Low	250	290	332	359
% of Searches with Commercial Motive				
High	35%	40%	47%	50%
Low	30%	35%	38%	40%
% of Commercial Searches Monetized				
High	13%	14%	17%	20%
Low	10%	11%	13%	15%
Cost per Click				
High	\$0.30	\$0.35	\$0.45	\$0.50
Low	\$0.28	\$0.30	\$0.40	\$0.45
Industry Revenue (\$ million)				
High	\$1,245	\$2,224	\$4,677	\$7,376
Low	\$756	\$1,236	\$2,331	\$3,556

Source: Adapted from Chad Bartley and Steve Weinstein, "High Growth in Search Creates Opportunities for Niche Players," Pacific Crest Securities, November 4, 2003, p. 14.

Exhibit 5 Froogle Search Results



Source: Google, Inc. Web page, <http://www.froogle.google.com>, accessed January 10, 2004.

Endnotes

- ¹ Quoted in Matthew Leising, "Companies & Finance International," *The Financial Times*, June 9, 2001.
- ² Greg Jarboe, "A 'fireside chat' with Google's Sergey Brin," Searchenginewatch.com, October 16, 2003. Brin's comment addresses Thomas Friedman's "Is Google God?" *The New York Times*, June 29, 2003.
- ³ Alex Salkever, "What's Google really worth?" *BusinessWeek*, October 30, 2003.
- ⁴ Fred Vogelstein, "Can Google grow up?" *Fortune*, December 8, 2003.
- ⁵ Chad Bartley and Steve Weinstein, "High growth in search creates opportunities for niche players," Pacific Crest Securities, November 4, 2003, p. 2.
- ⁶ Fred Vogelstein, "Can Google grow up?" *Fortune*, December 8, 2003.
- ⁷ Seth Godin, ed., "What should Google do? An ebook of public brainstorm," available for free download at http://blog.fastcompany.com/archives/2003/08/21/what_should_google_do.html, accessed January 4, 2004.
- ⁸ For a set of links to Internet histories compiled by the Internet Society, see <http://www.isoc.org/internet/history>, accessed January 4, 2004.
- ⁹ For a history of Google, see <http://www.google.com/corporate/history.htm>, accessed January 4, 2004.
- ¹⁰ Bartley and Weinstein, p. 2.
- ¹¹ "Google at a glance," <http://www.google.com/corporate/facts.html>, accessed January 4, 2004.
- ¹² Google Company Overview, <http://www.google.com/press/overview.html>, accessed January 4, 2004.
- ¹³ Jarboe.
- ¹⁴ Bartley and Weinstein, p. 11.
- ¹⁵ Safa Rashtchy, "The golden search," US Bancorp Piper Jaffray Equity Research, March 2003.
- ¹⁶ Sue Norris, "Search engine consolidation," *Revolution*, November 1, 2003, citing Internet Advertising Bureau data.
- ¹⁷ Jakob Nielsen, "Designing web ads using click-through data," Alertbox Column, September 2001.
- ¹⁸ Data on Overture's performance are from company SEC filings.
- ¹⁹ Except as noted, this section is based on Google press releases, available at <http://www.google.com/press/pressreleases.html>, accessed January 3, 2004.
- ²⁰ <http://www7.scu.edu.au/programme/fullpapers/1921/com1921.htm>, accessed January 4, 2004.
- ²¹ Charlene Li, "Getting the most out of search marketing," Forrester Research, June 30, 2003.
- ²² Details on Adwords Select pricing are from the "AdWords FAQ" section of Google's home page, <https://adwords.google.com/select/pricing.html>, accessed January 4, 2004.
- ²³ Danny Sullivan, "Up close with Google AdWords," Searchenginewatch.com, March 4, 2002.
- ²⁴ Bartley and Weinstein, p. 5.
- ²⁵ Catherine Waters and Heath Terry, "Overture Services," CSFB Equity Research, April 8, 2002, p. 16.
- ²⁶ For number of advertisers, see Bartley and Weinstein, p. 5. For reach of affiliate networks, see Bartley and Weinstein, p. 13.
- ²⁷ Waters and Terry, p. 16.

²⁸ David Card, "U.S. paid search forecast," Jupiter Research, August 1, 2003.

²⁹ For cost-per-click rates, see Bartley and Weinstein, p. 5. For clickthrough rates, see Bartley and Weinstein, p. 14.

³⁰ Bartley and Weinstein, p. 6.

³¹ Rashtchy, pp. 24–28.

³² Bartley and Weinstein, p. 12.

³³ Ben Eglin and Arlene Weintraub, "The search war is about to get bloody," *BusinessWeek*, July 28, 2003.

³⁴ Data in this paragraph are from Greg Sterling, "A closer look at local search," The Kelsey Group, December 22, 2003.

³⁵ Bob Tedeschi, "Internet search engines may finally be seeing merit, and profit, in the local advertising market," *The New York Times*, March 10, 2003.

³⁶ Danny Sullivan, "Local search part 2: Google & Mobilemaps bring back geosearching," Searchenginewatch.com, October 21, 2003.

³⁷ Company SEC filings.

³⁸ Events in this section are documented in company press releases at <http://docs.yahoo.com/info/pr/releases.html>, accessed January 4, 2004.

³⁹ Quoted in Brier Dudley, "Putting Microsoft brand on a new breed: Longhorn," *The Seattle Times*, February 28, 2003.

⁴⁰ Michael Kanelios, "Microsoft aims for search on its terms," CNET News.com, November 24, 2003.

⁴¹ Ibid.

⁴² Michelle Kessler, "Gates: Microsoft aiming at spam, viruses," *USA Today*, November 17, 2003.

⁴³ The section title is borrowed from name of Seth Godin's eBook, "What should Google do? . . ."

⁴⁴ Fred Vogelstein, "Can Google grow up?" *Fortune*, December 8, 2003, p. 112.

⁴⁵ All data in this section on Google services are from the "Services and Tools" section of Google's Web site, <http://www.google.com/options>, accessed January 3, 2004.

⁴⁶ Andrew Orlowski, "Google buys search engine. PageRank RIP?" *The Register*, September 30, 2003, <http://www.theregister.com/content/archive/33141.html>, accessed January 20, 2003.

⁴⁷ Sue Norris, "Search engine consolidation," *Revolution*, November 1, 2003, quoting Robin Kellett, Microsoft's U.K. search manager.