YAHOO!

Guess, three and a half years ago, if we were looking to start a business and make a lot of money, we wouldn't have done this.
—Jerry Yang, 1997

It was April of 1995—a key decision point for Jerry Yang and David Filo. These two Stanford School of Engineering graduate students were the founders of Yahoo!, the most popular Internet search site on the World Wide Web. Yang and Filo had decided that they could transform their Internet hobby into a viable business. While trying to decide between several different financing and partnering options that were available to them, they attended a meeting with Michael Moritz, a partner at Sequoia Capital. Sequoia, one of the leading venture capital firms in Silicon Valley, had been discussing the possibility of investing in Yahoo!.

Michael Moritz leaned forward in his chair. As he looked across the conference table at Jerry and Dave, he laid out Sequoia's offer to fund Yahoo!:

> As you know, we have been working together on this for some time now. We have done a lot of hard work and research to come up with a fair value for Yahoo!, and we have decided on a $4 million valuation. We at Sequoia Capital are prepared to offer you $1 million in venture funding in exchange for a 25 percent share in your company. We think that with our help, you have a real chance to make Yahoo! something special. Our first order of business will be to help you assemble a complete management team, after which we should be able to really start helping you to develop and manage your site's vast amount of content.
>
> Right now, the biggest risk that you guys run is *not* making a decision. You *have* to make a decision, because if you don't, someone else is going to run you over. You might get run over by Netscape. You might get run

This case was prepared by Michael K. Chang and Matthew Garman, graduate students at Stanford University's School of Engineering, and Thomas J. Kosnik, consulting professor, Stanford School of Engineering, as basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation. Some facts have been disguised. Dialogue between case actors has been reconstructed from multiple sources based on their recollection of past events, and is not intended as a verbatim quotation at the time of the meeting.

Revised August 22, 2001.

> over by AOL. You might get run over by one of these other venture-backed start-ups. It is imperative that you make a decision now if you are going to survive. To help you make a decision, I am going to give you a deadline: tomorrow. If you don't want to do business with Sequoia, that's OK. I'll be disappointed, but that's OK. But you are going to have to call me by 10 A.M. tomorrow morning to tell me yes or no.[1]

Yang and Filo gazed around the Sequoia conference room and noticed the many posters of companies such as Cisco, Oracle, and Apple that were hung from the walls—all success stories from past Sequoia investments. They wondered if Yahoo!'s poster would someday join that group. The two were excited at the possibilities; however, they still had some decisions to make. There were several other financing options available, and they were still not sure if they wanted to accept Sequoia's funding. Yang responded:

> That sounds like a pretty fair offer, Mike. Let us talk this over tonight, and we will get back to you by tomorrow after we weigh all of our options. However you have to realize that we're still grad students, and we don't even usually wake up by 10 A.M., so can you give us until noon?

Yahoo!

Yahoo! was an Internet site that provided a hierarchically organized list of links to sites on the World Wide Web. It offered a way for the general public to easily navigate and explore the Web. Users could click through multiple topic and category headings until they found a list of direct links to Web sites related to their interest. In addition, Yahoo! offered a central place where people could go to just to see what was out there. This made it easy for people with little previous exposure to the Web to start searching through Yahoo!'s lists of links, often just to see if they could find something of interest. In a little over a year since its inception, it had become one of the most heavily visited sites on the Web.

But Yang and Filo believed Yahoo! had the potential to be much more than a way for Web surfers to find what they were looking for. In 1995, John Taysom, a vice president of marketing of Reuters, a London-based provider of news and financial data, called Jerry Yang to explore the idea of a Yahoo!-Reuters partnership. It seemed to Taysom that affiliating with Yahoo! could help Reuters to build a distribution network on the Web.

> "The first thing Jerry said to me," Taysom remembers, "was 'if you hadn't called me, I would have called you.'" Jerry *got* the news feed vision. He had been thinking about it for months. He further surprised Taysom by informing him that as far as he was concerned, Yahoo! was "not just a directory but a media property."[2]

---

[1] Michael Moritz, personal interview, November 10, 1998.
[2] Rob Reid (1997), Architects of the Web, John Wiley and Sons, New York, p. 253.

Yang further believed that: "Primarily we're a brand. We're trying to promote the brand and build the product so that it has reliability, pizzazz, and credibility. The focus of the business deals we are doing right now is not on revenues but on our brand."[3]

Dave and Jerry at Stanford

David Filo, a native of Moss Bluff, Louisiana, attended Tulane University's undergraduate program in computer engineering. In 1988, Filo finished his undergraduate work and enrolled in Stanford's master's program in electrical engineering. Completing his master's degree, he opted to stay at Stanford and try for his PhD in electrical engineering. Extremely competent in the technical arena, Filo had been described by many as a quiet and reserved individual.

Jerry Yang was a Taiwanese native who moved to California at the age of 10. Yang was raised by his widowed mother and grew up in San Jose with his younger brother, Ken. Yang was a member of the Stanford class of 1990 and completed both his bachelor's and master's degrees in electrical engineering. Yang also opted to stay at Stanford for a PhD in electrical engineering. Also technically competent, Yang was considered much more outgoing than Filo.

Yang and Filo met each other in the electrical engineering department at Stanford; Filo was Yang's teaching assistant for one of his classes. They also both worked in the same design automation software research group. They became close friends while teaching at the Stanford campus in Kyoto, Japan. Upon returning to the Stanford campus, they moved into adjacent cubicles in the same trailer to conduct their graduate research. They both enjoyed working together, as their individual personalities perfectly complemented each other, forming a unique combination.

Their office was not much to look at, but it served as a place for them to work on their research as well as a place from which they could run their website. "The launching pad (for Yahoo!) was an oxygen-depleted, double-wide trailer, stocked by the university with computer workstations and by the students with life's necessities . . . that prompted a friend to call the scene 'a cockroach's picture of Christmas'."[4] Michael Moritz remembered his early visits to Jerry and Dave's cube:

> With the shades drawn tight, the Sun servers generating a ferocious amount of heat, the answering machine going on and off every couple of minutes, golf clubs stashed against the walls, pizza cartons on the floor, and unwashed clothes strewn around . . . it was every mother's idea of the bedroom she wished her sons never had.[5]

[3] Jerry Yang (1995) interview in *Red Herring* (October), online back issue, p. 9.
[4] Randall E. Stross (1998), "How Yahoo! Won the Search War," *Fortune,* http://www.pathfinder.com.fortune/1998/980302/yah.html, p. 2.
[5] Rob Reid (1997), *Architects of the Web*, John Wiley and Sons, New York, p. 254.

Mosaic and the World Wide Web

In 1993, the University of Illinois-Urbana Champaign's National Center for Supercomputing Applications (NCSA) revolutionized the growth and popularity of the World Wide Web by introducing a Web browser they had developed called Mosaic. Mosaic made the Web "an ideal distribution vehicle for all kinds of information in the professional and academic circles in which it was known."[6] It provided an easy-to-use graphical interface that allowed users to travel from site to site simply by clicking on specified links. This led to the widespread practice of surfing the Web, as people spent hours trying to find new and interesting sites. This easy-to-use browser for navigating the Internet was estimated to have 2 million users worldwide in just over one year.

Creating Jerry's Guide to the World Wide Web

With Mosaic's introduction in late 1993, Filo and Yang, along with thousands of other students, began devoting large amounts of time to surfing the Web and exploring the vast content available. As they discovered interesting sites, they made bookmarks of the sites. The Mosaic Web browser had an option to store a bookmark list of your favorite sites. This feature allowed users to return directly to a page that they had visited, without having to navigate through several different links. As the popularity of the Web quickly increased, so did the total number of sites created, which in turn led to an increase in the number of interesting sites that Filo and Yang wanted to bookmark. Eventually, their personal list of favorite Web sites grew large and unwieldy, due to the fact that the earliest versions of Mosaic were unable to sort bookmarks in any convenient manner.

To address this problem, Filo and Yang wrote software using Tcl/TK and Perl scripts that allowed them to group their bookmarks into subject areas. They named their list of sites "Jerry's Guide to the World Wide Web" and developed a Web interface for their list. People from all over the world started sending Jerry and Dave e-mail, saying how much they appreciated the effort. Yang explained: "We just wanted to avoid doing our dissertations."[7]

The two set out to cover the entire Web. They tried to visit and categorize at least 1,000 sites a day. When a subject category grew too large, subcategories were created, and then sub-subcategories. The hierarchy made it easy for even novices to find websites quickly. "Jerry's Guide" was a labor of love—lots of labor, since no software program could evaluate and categorize sites. Filo persuaded Yang to resist the engineer's first impulse to try to automate the process. "No technology could beat human filtering," Filo argued.[8]

---

[6] Rob Reid (1997), *Architects of the Web,* John Wiley and Sons, New York, p. 11.

[7] Randall E. Stross (1998), "How Yahoo! Won the Search War," *Fortune,* http://www.pathfinder.com.fortune/1998/980302/yah.html, p. 2.

[8] Randall E. Stross (1998), "How Yahoo! Won the Search War," *Fortune,* http://www.pathfinder.com.fortune/1998/980302/yah.html, p. 3.

Though engineers, Yang and Filo had a great sense of what real people wanted. Consider their choice of name. Jerry hated "Jerry's Guide," so he and Filo opted for "Yahoo!," a memorable parody of the tech community's obsession with acronyms (this one stood for "Yet Another Hierarchical Officious Oracle"). Why the exclamation point? Said Yang: "Pure marketing hype."[9]

Yahoo!'s Growing Popularity

At first, Yahoo! was only accessible by the two engineering students. Eventually, they created a Web interface that allowed other people access to their guide. As knowledge of Yahoo!'s existence spread by word of mouth and e-mail, more people began using their site, and Yahoo!'s network resource requirements increased exponentially. Stanford provided them with sufficient bandwidth to the Internet, but bottlenecks came from limitations in the number of TCP/IP connections that could be made to the two students' workstations.[10] Additionally, the time required to maintain the site was becoming unmanageable, as Yang and Filo found themselves continually updating their Web site with new links. Classes and research fell behind as Yang and Filo devoted more and more time to their ever-expanding hobby.

Competing Services

A number of businesses already existed in the Internet search space. While none offered the same service that Yahoo! did, these companies could definitely provide potential competition to any new business that Yahoo! would start. Among the competitors were Architext, soon to be renamed Excite, Webcrawler at the University of Washington, Lycos at Carnegie Mellon, the World Wide Web Worm, and Infoseek, founded by Steven Kirsh. AOL and Microsoft in 1995 represented larger competitors who could enter the market either by building their own capability or acquiring one of the other start-ups.

Yahoo!'s human-crafted hierarchical approach to organizing the information for intuitive searches was a key component of its value proposition. Rob Reid, a Venture Capitalist with 21st Century Internet Venture Partners, explained how this made Yahoo! unique among Internet search providers.

> The Yahoo! hierarchy is a handcrafted tool in that all of its . . . categories were designated by people, not computers. The sites that they link to are likewise deliberately chosen, not assigned by software algorithms. In this, Yahoo! is a very labor intensive product. But it is also a guide with human discretion and judgment built into it—and this can at times make it almost uncannily effective. . . .

---

[9] Randall E. Stross (1998), "How Yahoo! Won the Search War," *Fortune,* http://www.pathfinder.com.fortune/1998/980302/yah.html, p. 3.

[10] Mark Holt and Marc Sacoolas (1995), "Chief Yahoos: David Filo and Jerry Yang," *Mark & Marc Interviews,* May, http://www.sun.com/950523/yahoostory.html.

> This is the essence of Yahoo!'s uniqueness and (let's say it) genius. It isn't especially interesting to point to information that many people are known to find interesting. *TV Guide* does this. So do phone books, and countless Web sites that cater to well-defined interest groups. . . . But Yahoo! is able to build intuitive paths that might be singularly, or even temporarily important to the people seeking it. And it does this in a way that no other service has truly replicated.[11]

However, if Yahoo!, as a business, was to survive and flourish in the face of increasingly well-funded competition, it would quickly need to find some outside capital.

Leaving Stanford and Starting the Business

Yang and Filo had been in Silicon Valley long enough to realize that what they really wanted to do was to start their own business. They split much of their free time between their Internet hobby and sitting around thinking up possible business ideas.

"A considerable period of time passed before it occurred to them that the most promising idea was sitting under their noses, and some of the credit for their eventual illumination belongs to their PhD adviser, Giovanni De Micheli. Toward the end of 1994, De Micheli noted that inquiries to Yahoo! were rising at an alarming rate. In a single month, the number of hits jumped from thousands to hundreds of thousands daily. With their workstations maxed out, and the university's computer system beginning to feel the load, De Micheli told them that they would have to move their hobby off campus if they wanted to keep it going."[12]

By fall of 1994, the two received over two million hits a day on their site. It was then that Jerry and Dave commenced the search for outside backing to help them continue to build up Yahoo!, but with only modest hopes. Yang thought they might be able to bootstrap a workable system, using personal savings to buy a computer and negotiating the use of a network and a Web server in return for thank-you banners. Unexpected overtures from AOL and Netscape caused them to raise their sights, although both companies wanted to turn Filo and Yang into employees.

If they were going to abandon their academic careers (as they soon did, six months shy of their doctorates), they reasoned that they should hold out for some control. Filo and Yang had three main potential options to explore: (1) sell Yahoo! outright; (2) partner with a corporate sponsor; (3) start an independent business using venture capital financing.

---

[11] Rob Reid (1997), *Architects of the Web,* John Wiley and Sons, New York, pp. 243–244.

[12] James, Lardner, (1998), "Yahoo! Rising," *U.S. News,* May 18, http://www.usnews.com.usnews/issue/80518/18yaho.html, p. 3.

The Search for Funding

Looking to receive funding and create a credible business out of Yahoo!, Filo and Yang began preliminary discussions with potential partners in October 1994. One of the first people who contacted them was John Taysom, a vice-president of marketing at Reuters, the London-based media service. Taysom was interested in integrating Reuters' news service into Yahoo!'s Web pages. Yahoo! would gain the advantage of being able to provide news services from a well-known source, while Reuters would be able to begin developing its own presence on the Internet. Unfortunately, since Yahoo! did not generate revenues, it was in a poor negotiating position. Talks between the two were cordial, but they also progressed very slowly.

Yahoo! also talked to Randy Adams, founder of the Internet Shopping Network (ISN), a company that styled itself as "the first online retailer in the world." ISN, funded by Draper Fisher Jurvetson, was one of the first venture funded Internet companies. It had recently been purchased by the Home Shopping Network, in order to expand its possible exposure. ISN was interested in being a host site for Yahoo!, offering them the chance to finally generate some revenue. However, there were also definite possible disadvantages that came from being associated with a shopping network.

Another company that approached Yahoo! was Netscape Communications Corporation. Founded in April 1994 by Jim Clark, who also founded Silicon Graphics, and Marc Andressen, who created the NCSA Mosaic browser with a team of other UIUC students and staff, Netscape was a hot private company developing an improved browser based on the old Mosaic technology. Andressen contacted Yang and Filo over e-mail and, in Yang's words said, "Well, I heard you guys were looking for some space. Why don't you come on into the Netscape network? We'll host you for free and you can give us some recognition for it."[13] This was a fortuitous contact that allowed Yahoo! to move itself off of Stanford's campus. By early 1995, Yahoo! was running on four Netscape workstations.

Soon after, Netscape offered to purchase Yahoo! outright in exchange for Netscape stock. The advantage of this option was that Netscape was already planning its initial public offering and had tremendous publicity and momentum behind it. Coupled with high profile founders and backers like Clark, James Barksdale, former president and CEO of AT&T Wireless Services, and the venture capital firm Kleiner Perkins Caufield & Byers, this offer was a potentially lucrative one for the two Yahoo! founders. Additionally, Netscape's company culture was more in tune with what the two students were looking for, in comparison to some of the more established market players.

[13] Jeff Ubois (1996), "One Thing Leads to Another," *Internet World,* January, http://www.Internetworld.com/print/monthly/1996/01/yahoo.html, p. 1.

Corporate Partnerships

Yahoo! was also feeling tremendous pressure to partner or accept corporate sponsorship from other large content companies and online service providers like America Online (AOL), Prodigy, and Compuserve. These companies offered the carrot of money, stock, and/or possible management positions. They argued that if Yahoo! did not partner with them, as large players they could develop their own competing services that would cause Yahoo! to fail. One potential disadvantage with corporate funding was the potential taint that came with such sponsorship. Yahoo! had started as a grass-roots effort, free of commercialization. A second disadvantage was the lack of control that the two Yahoo! founders would have over their creation. "Building Yahoo! was fun, particularly without adult supervision. (Dave) and Jerry were also worried that selling to AOL would have 'most likely killed' Yahoo! in the end."[14]

With partner discussions beginning to heat up, Yang requested help from Tim Brady, a friend and second-year Harvard Business School student. As a class project, Brady generated a business plan for Yahoo! during the 1994–1995 Christmas vacation. (See the Appendix for excerpts of the business plan circa 1995.)

With Brady's business plan in hand, Filo and Yang began to approach different venture capital firms on nearby Sand Hill Road. Venture capital firms brought experience, valuable contacts in the Silicon Valley, and most importantly, money. However, they also required substantial ownership in return for their services. One venture firm that the Yahoo! founders approached was Kleiner Perkins Caufield & Byers. KPCB had an excellent reputation as one of the most prestigious VC firms in the Silicon Valley, and their list of successful investments included Sun Microsystems and Netscape. KPCB showed a definite interest in Yahoo!; however, Vinod Khosla of KPCB and Geoffrey Yang of Institutional Venture Partners had just invested $0.5M in Architext (later renamed Excite), another company started by Stanford engineering students that was developing a search-and-retrieval text engine. Architext was receiving increased press coverage, with a March 1995 *Red Herring* magazine spotlighting the company and its venture capital partners. KPCB proposed to fund Yahoo!, but only if they agreed to merge with Architext.

Sequoia Capital

Another venture capital firm that Yahoo! approached was Sequoia Capital. It was during partnership discussions with Adams at the Internet Shopping Network that Yang and Filo were first introduced to Michael Moritz, a partner at Sequoia Capital. Moritz went to visit Jerry and Dave, who were at the time still operating out of their tiny Stanford trailer. Said Yang, "The first time we sat down with Sequoia, Mike (Moritz) asked, 'So, how much are you going to charge subscribers?' Dave and I looked at each other and said, 'Well, it's going

[14] Rob Reid (1997), *Architects of the Web,* John Wiley and Sons, New York, p. 256.

to be a long conversation."[15] Fortunately, Moritz, who came from a journalistic background at *Time* was flexible in his thinking. Some of the major advantages that Moritz brought to the negotiating table were his contacts with publications and knowledge about how to manage content. Moritz talked about the roots of Sequoia's interest in working with Yang and Filo. "I think we are always enamored with people that seem to be on to something, even if they can't define that something. They had a real passion and a real spark."[16]

Sequoia Capital had a long tradition of success in the venture capital market, citing that the total market capitalization for Sequoia backed companies exceeded that of any other venture capital firm. Sequoia's trademark *modus operandi* was funding successful companies using only a small amount of capital. Its list of successful investments included Apple Computer, Oracle, Electronic Arts, Cisco Systems, Atari, and LSI Logic. Said Moritz, Sequoia preferred "to start wicked infernos with a single match rather than 10 million gallons of kerosene."[17]

In February 1995, Filo and Yang were weighing a number of possibilities and in no hurry to accept any of them, when Michael Moritz made them an offer. Sequoia Capital would fund Yahoo! for $1 million and would help them to assemble a top management team. In return, Sequoia would receive a 25 percent share of the company. Additionally, Moritz gave them only 24 hours to accept the deal before it was pulled off the table. "I felt a need to deliver them from the agony of indecision," claimed Moritz. With the deadline quickly approaching, Yang and Filo sat down to weigh their options. The decisions that they made that night would determine the direction of their careers as well and the future of Yahoo!

The Decision

Sitting in their tiny office on the Stanford campus, Jerry and Dave shared a late-night pepperoni and mushroom pizza as they explored their options and tried to come to a decision. It was already getting pretty late, and they only had until noon the next day to make their decision.

Yang took a bite from his pizza as he looked over the terms sheet that Sequoia had given them.

> We have some pretty tough decisions to make, and Michael has really forced the issue now with this 24-hour deadline. As I see it, we have a couple of options. The first is to accept Sequoia's offer and launch Yahoo! as our own company. We would be giving up a significant percentage of Yahoo!, but we really need the money if we are going to survive. Moritz and the rest of the resources at Sequoia could also prove to be invaluable as we try to assemble the rest of our management team.

[15] Jerry Yang, "Found You on Yahoo!" *Red Herring,* October 1995, p. 3.
[16] Michael Moritz, personal interview, November 10, 1998.
[17] Anthony Perkins, *Red Herring,* June 1996.

Our second option is to accept corporate sponsorship. This would allow us to get the funding we need and still retain 100 percent ownership of Yahoo!. However, I am worried about selling out to corporate America. We were fortunate to be able to develop our site in an educational setting as a noncommercial free site. I am afraid if we accept the corporate sponsorship, it will taint Yahoo!'s image.

Finally, we could agree to merge with an existing corporation. The word is that Netscape is pretty close to their IPO, and Architext has some really big time investors behind it. If we merge with Netscape or Architext in exchange for stock options, it could mean a lot of money for us in the next couple of years.

Filo got up from his seat and kicked aside some of the empty pizza boxes that had started to accumulate. He walked over to Yahoo!'s tiny office window and stared at Stanford's Hoover Tower, which was barely visible in the distance.

It's true that we could make some money if we sell to Netscape or Architext, but we would have to give up primary control of Yahoo! if we did. We would never know what we could have done if we would have maintained control of the site ourselves.

There is also a fourth option you forgot to mention. I'm excited by Sequoia's offer, but I'm wondering if maybe we are giving up too much of our company. A fourth option could be to not decide tonight and look for better terms with another VC firm. I know Michael said that we should decide quickly, but I would hate to give up 25 percent of our company, only to find out in a week that another firm would have offered us $3 million for the same percentage. I know that time is really important, and we like working with Michael Moritz. On the other hand, I don't want to be regretting our decision two months from now.

As they grappled with the alternatives facing them, Filo and Yang began to envision life outside of the Stanford trailer in which Yahoo! was born. It was well past 2 A.M., and they had to make a decision in less that ten hours. What should they do?

Questions

1. What makes Yahoo! an attractive opportunity (and not just a good idea)?
2. How will Yahoo! make money (i.e., business model)?
3. Identify the major risks in each of these categories: technology, market, team, and financial. Rank order them.
4. What are the advantages and disadvantages of each of the funding options they could pursue? Which one do you recommend?

Video Resources

Visit http://techventures.stanford.edu to view a video of the founders of Yahoo! and others discussing the outcome of the case.

EXHIBIT 1 Yahoo! Founders and Potential Investor

Jerry Yang

Jerry Yang was a Taiwanese native who was raised in San Jose, California. He co-created the Yahoo! online guide in April of 1994. Jerry took a leave of absence from Stanford University's electrical engineering PhD program after earning both his BS and MS degrees in electrical engineering from Stanford University.

David Filo

David Filo, a native from Moss Bluff, Louisiana, co-created the Yahoo! online guide in April 1994 and took a leave of absence from Stanford University's electrical engineering PhD program in April 1995 to co-found Yahoo!, Inc. Filo received a BS degree in computer engineering from Tulane University and a MS degree in electrical engineering from Stanford University.

Michael Moritz, Partner, Sequoia Capital

Moritz was a general partner at Sequoia Capital since 1988 and focused on information technology investments. Moritz served as a director of Flextronics International and Global Village Communication, as well as several private companies. Between 1979 and 1984, Moritz was employed in a variety of positions by Time, Inc. Moritz had an MA degree in history from Oxford University and an MBA from the Wharton School.

Appendix Selected Excerpts from the Yahoo! Business Plan.

Yahoo!'s first business plan was developed by Tim Brady as part of a course project at the Harvard Business School. The plan was continuing to evolve during discussions between Jerry Yang and David Filo at Yahoo! and Michael Moritz of Sequoia Capital. For this case, the company has provided excerpts of this business plan that are not proprietary.

The case writers thank Mr. J. J. Healy, director of corporate development, and others at Yahoo! for their efforts in providing this original archival information to enhance the learning experience of future entrepreneurs.

Business Strategy

Yahoo!'s goal is to remain the most popular and widely used guide to information on the Internet. The Internet is in a period of market development characterized by extremely high rates of both user traffic growth and entry of new companies focused on various products and services. By virtue of its early entry, Yahoo! has developed its current position as the leader in this segment. Yahoo!'s ability to expand its position and develop long-term, sustainable advantages will depend on a number of things. Some of these relate to its current position and others relate to its future strategy.

Today, Yahoo! solves the main problem facing all Internet users. It is next to impossible for users, faced with millions of pieces of information scattered globally on the Internet, to easily find that what is relevant to them without a guide like Yahoo! Not only is the amount of information huge, it is expanding almost exponentially.

All enhancements to Yahoo! will be governed by the goal of making useful information easy to find for individuals.

We believe that Yahoo's enormous following has been generated by the following list:

- Yahoo! was the first company to create a fast, comprehensive and enjoyable guide to the Internet, and in so doing, built a strong brand early and created momentum.
- The unique interest-area based structure of Yahoo! makes it an easier and more enjoyable way for the user to find relevant information than the classic search engine approach where key words and phrases are used as the starting point.
- Through its editorial efforts, Yahoo! has continually built a guide which is noticeably better than its competition through a combination of comprehensiveness and high quality.

The company will focus on the directory and the guide business and generate revenue from advertising and sponsorship.

Yahoo!'s strategy is to:

- **Continue to build user traffic and brand strength** on the primary server site through product enhancements and extensions as well as through an aggressive marketing communications program.
- **Develop and integrate the leading technology** required to maintain a leadership position. Underlying the extremely appealing guide is Yahoo!'s scaleable core technology in search engine, database structure, and communication software. These core technologies are relevant to the user's experience to the extent that it enables Yahoo! customers' access to a broader array of high quality information in an intuitive way, faster than any competitors product. Yahoo! is discussing a full license to advanced web-wide search engine technologies, web-wide index data, and crawler services with Open Text of Waterloo, Canada. Yahoo! will be the first guide with a seamless integrated directory/web-wide search product. The proposed agreement with Open Text also includes ongoing joint development of advanced search and database technologies leveraging the strengths of both companies. All jointly developed products will be distributed by Yahoo! allowing the company to continue to introduce advanced features on a regular and aggressive basis.
- **Extend the reach to a broader audience** through establishment of contractual relationships with Internet access providers such as MSN, America Online, and Compuserve and very popular web sites.

- **Extend the reach and appeal to international users** through partnerships with international access providers who can operate foreign mirror sites for Yahoo and add localization in the form of foreign language, local advertisers, and local content.
- **Retain the users ("readership") of Yahoo!** through constant enhancements to the content and interface of the guide.
- **Rapidly extend the product line** by introducing regional guides, vertical market guides, and more importantly, individually personalizeable guides. Our intention is to be the first to market in all or most of these categories and outrun our competition by constantly "changing the competitive rules and targets." Our introduction of personalized guides will be a first in the market and will leverage core technology owned both internally as well as through our license with Open Text.

Market Analysis

The Internet, whose roots trace back almost 20 years, is experiencing a period of incredibly rapid growth in the area of online access base and user population. According to IDC and a recent report by Montgomery Securities, there are approximately 40 million users of the Internet, a majority using it only for email. However, it is estimated that about 8 million people have access to the Internet and World Wide Web. Most of these access the Web from the workplace because of the availability of high bandwidth hardware and communications ports there. It is expected that over the next two to four years as higher bandwidth modems, home-based ISDN lines and cable modems are adopted, that both the growth and penetration of Web access into the home will increase dramatically. IDC estimates that by 2000, 40 percent of the homes and 70 percent of all businesses in the United States will have access to the Internet. In the Western European and Japan markets, the comparable penetration rates might be as high as 25 percent and 40 percent respectively. If this holds true, there will be as many as 200 million users on the Internet and Web by the year 2000.

Market Segmentation and Development

We believe that between now and the year 2000 there will be three principal user groups driving the growth of the Web:

- Large businesses using the Internet for both internal wide area information management and communication as well as intrabusiness communication and commerce.
- Small home based businesses using it for retrieval of information relevant to the business as well as for vendor communication and commerce.
- The individual user/consumer using it initially to find and access information which is relevant to their personal entertainment and learning and later to make purchases of products and services.

We also believe that the evolution of the Internet will include three stages of market development:

- Availability and proliferation of enabling technology.
- Establishment of widespread access and communication services.
- Widespread distribution of high value content.

We are currently in the first stage of market development consisting primarily of infrastructure building and including rapid growth in the adoption and sale of computer, network, and communication products and entering into the second stage involving the initial establishment of "access" service based businesses.

Internet Market Size

Estimates of the amount of current and projected revenue for Internet related business vary. However, primary research conducted by both Montgomery Securities as well as Goldman Sachs indicate that the total served market for Internet hardware, software, and services will total approximately $1B in 1995, up from approximately $300M in 1994. Projections are that these categories might grow to a total of $10B by the year 2000. Several research firms including Forrester and Alex Brown & Sons have estimated the revenues to be produced by Web-based advertising at approximately $20M in 1995, $200M in 1996, and over $2B by the year 2000.

Market Trends

During the current, rapidly expanding stages of market and industry development, the following trends are clear:

- There is large scale adoption of enabling technology in the areas of network hardware and software, as well as communication hardware and software. The World Wide Web with its inherent support of multimedia begs for the adoption of higher and higher bandwidth platform and communication hardware and software.
- Telecommunication companies and newly entering Internet access providers are rushing to put in place basic "hook-ups" in high bandwidth form.
- The price for high-speed computer and communication "port" hardware and software of adequate bandwidth to support acceptable levels of transport and display is still somewhat high. Partly for this reason, the adoption of fully capable ports onto the Web is still principally occurring at businesses.
- With the availability of 28.8K baud modems, ISDN lines and high performance/low price personal computers, home adoption of Internet access is on the rise and slated to have extremely high growth over the next five years. Adoption of cable modems could accelerate this trend.

- Formerly closed network online services such as America Online, Compuserve, and Prodigy are now offering Internet access and opening up their services. Other companies such as Microsoft as well as divisions of MCI, AT&T, and others are attempting to put in place Internet online services in which a range of programming content is presented.
- Companies such as Yahoo! which provide means to navigate the Web are growing rapidly as measured by amount of end user traffic.
- These high traffic sites already provide a high volume platform for delivering electronic advertising.

During this stage, and sustainably for all stages to come, there is one fundamental need which users have: The location of meaningful information easily and quickly on this large and exponentially growing source called the Internet.

Competition

Yahoo! intends to effectively beat any emerging competitors by:

- Establishing broader distribution earlier than any other competitor in order to maintain the Yahoo! guide as the most widely used in its class.
- Broadening the product line faster than the competition through the introduction of vertical market focused guides and personalizeable editions of the guide.
- Staying ahead of the competition with regular core product updates which continue to make it faster, easier to use, and more effective.
- Delivering high quality audiences and compelling results to advertisers.

Risks

The main risks facing Yahoo! are:

- *The ability to increase traffic and enhance the Yahoo! brand*. Management believes it can achieve both these goals.
- *Ability to introduce key new products faster and better than the competition*. We believe that our current core technologies and platform will allow us to do this if supplemented by funded expansion of product development and marketing functions.
- *Ability to develop an international presence and leading brand internationally before the competition*. At the present time, Yahoo! is being pursued by a number of very high visibility and capable international affiliates. The funded addition of limited marketing and business development resources will allow us to respond to these opportunities in a timely way.
- *The introduction of competitive products internally developed by access providers*. While there is no assurance that this will not happen, we have secured relationships with several of the leading providers already in which the Yahoo! product is featured and are in advanced discussions with others.

We believe that many of the access providers already respect Yahoo!'s strong brand, comprehensive guide and focus and are concluding that they will not be inclined to reinvent this late in lieu of a mutually favorable affiliate business relationship with Yahoo!.

- *Ability to scale our support of both the traffic through our main site as well as mirror sites of our affiliates*. If the demands of traffic outgrow the bandwidth of servers we install, then response rates might go down and lead to customer dissatisfaction. Yahoo! has successfully scaled and operated its server site. We believe we will be able to support the needed growth.
- *That the growth of the Internet industry as a whole slows significantly, or that the adoption of the Web as a significant platform for advertising does not grow as projected*. These are both out of Yahoo!'s control. However, the company believes that the industry is in a secure phase of adoption which should fuel growth.

Yahoo!'s sustainable advantages

The Internet is in a period of market development characterized by extremely high rates of both user traffic growth and entry of new companies focused on various products and services. By virtue of its early entry, Yahoo! has developed its current position as the leader in its segment. Yahoo!'s ability to sustain and grow its position will depend on a number of things. Some of these relate to its current core advantages and others relate to future execution of its strategy.

At present, Yahoo!'s core strategic advantages include:

- *It's strong brand*. The company executed early and well with its unique, context focused, quick and intuitive guide and benefited from the widespread adoption of the Yahoo! product. The guide is the standard in the world of Web navigation.
- *Yahoo!'s scalable core technology in search engine, database structure, and communication software*. These core technologies are relevant to the user's experience to the extent that it enables the Yahoo! customer's access to a broader array of high quality information in an intuitive way, faster than any competitor's product.