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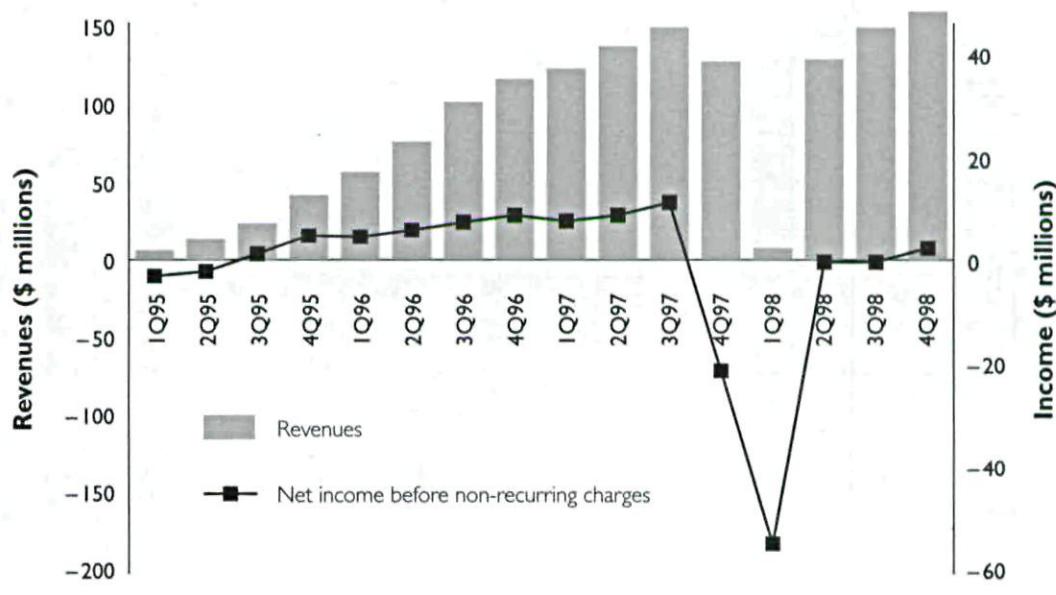
# **Building a Company on Internet Time: LESSONS FROM NETSCAPE**

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**S**tart-ups everywhere have a common problem: How do you scale a company faster than companies have ever scaled before? The power and potential of the Internet have led to incredible opportunities to create companies. However, the biggest challenge is to build an organization that can match the opportunity. Far too many start-ups crash and burn, despite a promising start.

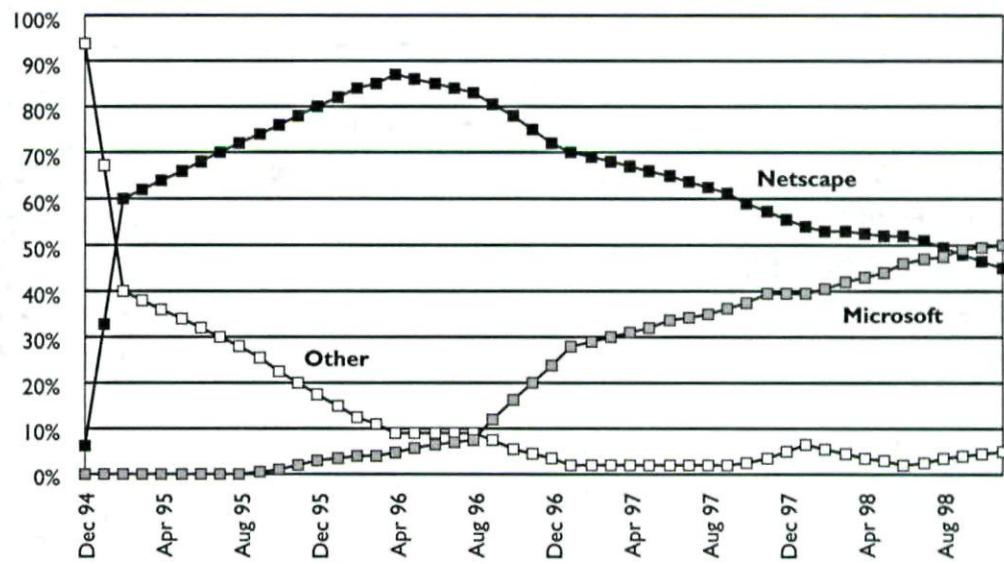
This article is about the lessons we can learn from Netscape, one of the companies with the "longest" history on the Internet. Netscape offers a number of important insights into how a company can build a large-scale business on Internet time. On May 5, 1994, Mosaic Communications Corporation opened its doors in Mountain View, California. Four years later, Mosaic Communications had morphed into the half-billion dollar Netscape Communications Corporation, the fastest growing software company of all time (see Figure 1). Navigator, the company's browser, was a spectacular success, capturing more than 60 percent of the market less than two months after its release in December 1994 (see Figure 2). Despite a fierce battle with Microsoft, Netscape built Navigator's installed base to more than 38 million users, making it the world's most popular personal computer (PC) application (see Figure 3). Netscape, itself, generated \$80 million in sales in its first full year and in a little more than three years, reached an annual sales rate of more than \$500 million. It took Microsoft almost 14 years to reach comparable revenues!

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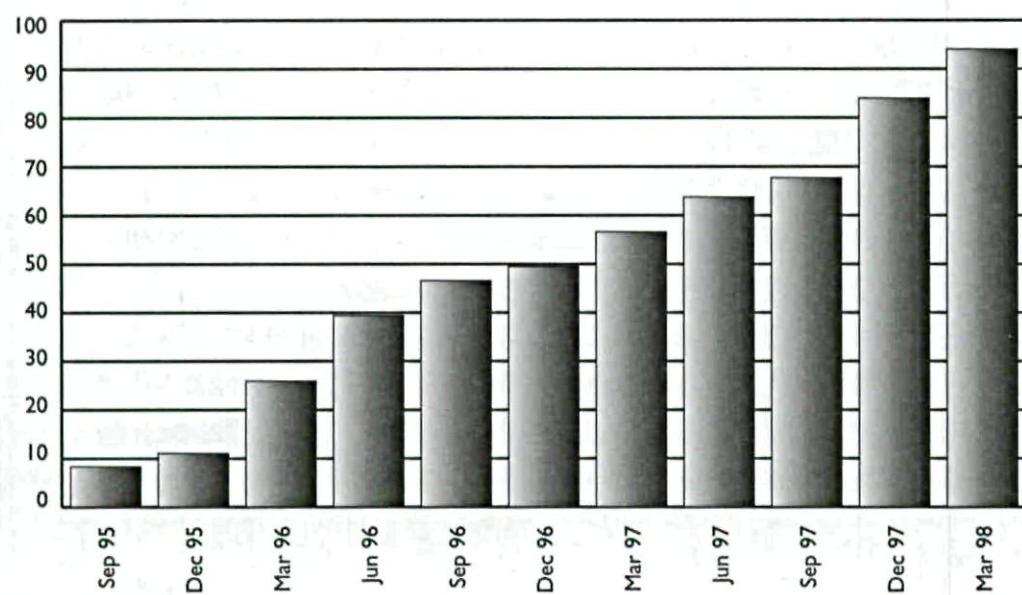
**FIGURE 1.** Netscape Quarterly Results

Note: After subtracting one-time charges, Netscape's loss in the fourth quarter of 1997 amounted to \$83.3 million. One-time charges also resulted in a loss of \$43.8 million in the second quarter of 1997.

Source: Netscape financial reports, press releases.

**FIGURE 2.** Browser Market Share

Source: Dataquest, Zona Research, ZD Market Intelligence, AdKnowledge, and authors' estimates.

**FIGURE 3.** Copies of Navigator Downloaded (millions)

Source: Netscape Web site

Although Netscape is no longer an independent company, Netscape shareholders reaped huge rewards. AOL's purchase of the company in November of 1998 was valued over \$10 billion at the closing in March 1999. Moreover, Netscape's spectacular rise still offers valuable lessons for growing a large company from scratch virtually overnight. We believe that four key principles capture the core lessons of Netscape for other start-ups:

- Create a compelling, living vision of products, technologies, and markets that is tightly linked to action.
- Hire and acquire managerial experience, in addition to technical expertise.
- Build the internal resources for a big company, while organizing like a small one.
- Build external relationships to compensate for limited internal resources.

These four principles explain why Netscape could overcome many of the traps that kill other promising start-ups. By developing a clear roadmap that was linked to products, they were able to navigate the uncertainty that plagues many entrepreneurs. By hiring and acquiring experience, they kept the organization aligned. By pushing systems one step ahead of needs, they kept the organization under control. Finally, by heavily leveraging external resources, they took full advantage of most everything the Internet had to offer. In fact, the Internet not

only facilitated Netscape's explosive growth, it almost demanded it. Like other firms on the Internet today, Netscape was working in a world where networks and standards matter. If a company owns a piece of key standards and gains a significant market share, it can reap huge benefits. Thus, Netscape's growth was not just astounding, but necessary for survival.

While Netscape did many things right in its first few years, Netscape's scaling-up strategy was not without flaws. As several former executives reminded us, "Rapid growth hides a lot of sins." Part of the problem was that Netscape's vision—both of the future and of its own role in that future—became too grandiose. At times, top executives seemed to believe that they could do it all, and they lost focus as a result. At other times, their preoccupation with ambitious, revolutionary plans caused them to overlook sources of value, such as their Web site, that were right at hand. In addition, many of the people who were perfect for scaling the company lacked the skills to adapt to the rapid changes of the Internet. Some executives fell into the habits of a pre-Internet age. Turf battles emerged, slowing down decision making and reducing flexibility. Also, while Netscape managers did a brilliant job of exploiting "virtual" partners like the press, their confidence (or overconfidence) led them to build weaker ties to "real" partners. However, despite these mistakes, their overall record as company-builders was one of considerable success.

### **Principle 1: Create a Compelling, Living Vision of Products, Technologies, and Markets That Is Tightly Linked to Action**

Most great companies start with a very simple, powerful vision of their industries and the potential for their firms. Intel, for example, was started by three entrepreneurs to take advantage of Moore's Law, which stated that the number of transistors on a single integrated circuit would double every 18 months to two years. As Intel's chairman Andy Grove related in his book, *Only the Paranoid Survive*, "Every start-up has some kind of a core idea. Ours was simple. Semiconductor technology had grown capable of being able to put an ever larger number of transistors on a single silicon chip. We saw this as having some promising implications...When we pondered the question of what we could do with this growing number of transistors, the answer seemed obvious: build chips that would perform the function of memory in computers."<sup>1</sup> Microsoft owed its start to a similar inspiration. Seeing the power of the microprocessor that Intel invented in 1972, Bill Gates foresaw a world where computers with microprocessors at their heart would be ubiquitous, and there would be a computer on every desk and in every home running Microsoft software.

Jim Clark and Marc Andreessen founded Netscape with a vision of equal simplicity and power. They believed that networks like the Internet would fundamentally change how people worked, played, and interacted with the world at large. As high-powered, global networks evolved, entrepreneurs would create new ways for people to gather information, form communities, do business,

participate in government, and just stay in touch. Clark and Andreessen did not know what forms these changes would take, but they were determined to create a business that would put them at the heart of the *networked world*.

Andreessen had been a leader of the team that developed Mosaic, the first popular Web browser, at the National Center for Supercomputing Applications in Illinois. At the time he met Clark, a distinguished computer scientist and the founder of Silicon Graphics, Andreessen was a baby-faced 22-year-old. Nonetheless, he convinced Clark that his creation could become a *universal interface* for the networked world. The browser would be a cross-platform, "cross-everything" tool that would work on every type of communications device: personal computers, touchscreen kiosks, cell phones, electronic organizers, and the like. Its ease of use would drive the network to grow in size and scope until it became a "ubiquitous utility," like the phone system, in Andreessen's words.<sup>2</sup>

Clark and Andreessen planned to own the browser, but at the same time, they intended to base it on *open standards*—an approach that would make it much easier for Netscape's rivals to compete. Open standards like HTML (Hypertext Markup Language) are managed by industry consortia, which make the specifications freely available to all. Proprietary standards, by contrast, are created through the market power of a single firm. Companies that own proprietary standards can generate large profits from closed systems that "lock in" customers. Netscape's founders, however, believed that this model of competition was bound to fail in a networked world. As Andreessen explained, "In a networked world, we're headed toward everything being interconnected, and in that world, anything that doesn't talk to everything else [gets killed]."<sup>3</sup>

These three principles—the power of networks, the promise of a universal interface, and the need for open standards—were the pillars of Netscape's vision. These core beliefs were fixed, but Netscape's fourth principle was that everything else was open to change. Clark and Andreessen were keenly aware that one of the challenges of competing on Internet time is the danger of seeing carefully prepared business plans become obsolete overnight. Therefore, they deliberately left Netscape's vision broad. The company would develop software for networks that would run on as many platforms as possible and use open standards. However, rather than choose a niche, it would be flexible in defining the markets it could serve. As Rick Schell, the original head of engineering recalled, "We didn't restrict ourselves to the Internet or internal networks or anything else. That was a very conscious decision. We believed that there was going to be a blurring of networking going on."<sup>4</sup>

As this blurring of networks evolved, Netscape shifted its focus every year to take advantage of emerging opportunities. This meant investing in new products, capabilities, and often, companies. Through it all, however, the "big" vision remained fixed. As Roberta Katz, the company's general counsel put it, "There's always kind of this overarching vision there, and then the question is, 'Okay, in today's marketplace, since we have to make money, what's the best way to do it?'"<sup>5</sup>

### **1995—The Year of the Internet**

Initially, Netscape's vision led the company to focus on products for public networks—the Internet and, in particular, the World Wide Web. The Web had burst onto the scene in 1993, and publishers, retailers, and Internet service providers were lining up to get a piece of the Internet pie. With the market just emerging, Netscape saw an opportunity to "come in below the radar screen" and take control of consumers' surfing habits by making its browser the most popular way to navigate the Web. With any luck, by the time the online malls were built, consumers would be hooked on driving around in Netscape's car.

Since a number of competitors were also planning to sell Web browsers, Andreessen pushed his developers to "kick it out the door."<sup>6</sup> After a number of marathon coding sessions, Netscape unveiled the first beta (preview) version of Navigator in October 1994. The company also released two servers at the end of the year: a basic version for publishing documents on the Web and a more sophisticated version that supported electronic commerce. Netscape's strategy, in essence, was to give away its browser and make money on the servers that companies needed in order to set up shop on the Web.

### **1996—The Year of the Intranet**

Netscape's browser was an enormous hit. However, Andreessen soon became concerned that the Internet was developing too slowly to fuel Netscape's growth. Internet commerce, in particular, was falling short of expectations. Fortunately, another source of business had recently emerged. In early 1995, Netscape managers began to notice that most of their revenue was coming from corporate customers who wanted browsers and servers for internal use. These companies were looking for simple, Internet-based technology that could support electronic mail and collaboration, preferably across the many different hardware and software platforms that they had already deployed. Armed with this realization, Andreessen pushed Netscape to turn from the consumer-oriented Internet to intranets, or corporate networks based on Internet protocols.

Netscape's original business plan had said nothing about corporate networks. Nonetheless, the vision of intranets, messaging, and collaboration was quickly embedded in product plans. New servers allowed companies to host newsgroups and handle electronic mail, and Netscape's second-generation browser, Navigator 2.0, offered enhanced support for these features by the end of 1995. The intranet vision also led Netscape to make huge new investments in direct sales and support. From 15 salespeople in early 1995, Netscape's sales organization ramped up to almost 800 people in 1998.

### **1997—The Year of the Extranet**

By mid-1996, Netscape held 80 percent of the market for Web servers inside corporations. However, with competition building, Andreessen was already looking for ways to extend Netscape's range. In late 1996, he decided

that Netscape should shift its focus from intranets to extranets. An extranet consisted of intranets that were connected over leased lines or secure Internet connections. It allowed companies to give partners selective access to resources behind the corporate firewall. The goal of the extranet was to streamline transactions with customers and suppliers, just as the intranet simplified operations within a corporation. For example, Chrysler's Supply Partner Information Network connected the automaker directly with more than 12,000 of its business partners. Companies with extranets often needed to support their partners' platforms, databases, and legacy systems, as well as their own. Consequently, Netscape managers believed that this was a market in which their cross-platform products would excel. In order to support the new strategy, Netscape made two important acquisitions. In November 1997, Netscape reintegrated Actra, an Internet commerce software developer that it had spun off as a joint venture the year before. Shortly afterward, the company acquired Kiva Software, the award-winning developer of a high-end applications server.

### **1998—Back to the Internet**

Netscape's growing interest in electronic commerce suggested that the company's focus was moving away from internal corporate networks and back onto the open frontier. In 1998, the company made this shift clear by putting its Web site, called Netcenter, at the core of its strategy. Andreessen no longer saw Netscape as a browser company, an intranet company, an extranet company, or even a software company. Instead, he believed that Netscape would increasingly deliver a combination of products (software) and services. For example, by transforming Netcenter into a major "portal"—a consumer Web site, like Yahoo!, that aggregates a wide range of content and services—Andreessen hoped to offer customers electronic commerce software and access to consumers at the same time. This strategy was reaffirmed when AOL agreed to acquire Netscape at the end of 1998.

### ***Assessing the Vision***

The greatest strength of Netscape's vision was its ability to create a tight link between senior management's high-level view of the world and the products they delivered to the marketplace. Netscape's vision did more than map a path through the confusion of the Web's early years. It also mobilized the company's troops to develop and deliver an impressive range of client and server products in a very short period of time.

Occasionally, however, Netscape's vision got ahead of the company and ahead of the world. For example, in 1995, Netscape moved quickly to embrace Java, the cross-platform language developed by Sun. The company poured extensive resources into Java-based development before finally realizing that the language was too immature to meet Netscape's needs. Looking too far into the future also led Andreessen to miss great sources of value that were directly at hand. In a moment of candor in May 1998, Andreessen admitted to us that

he had goofed: "I thought [using our Web site] was a distraction. It's kind of funny to think about how many people have had the opportunity to make billion-dollar mistakes. I absolutely thought we were a software company—we build software and put it in boxes, and we sell it. Oops. Wrong."<sup>7</sup>

Yet no one can have perfect foresight in their visions of the world. Mistakes are made all the time. The key question is whether the people and the organization can capitalize on the right observations and make quick adjustments when managers discover that they are on the wrong path.

## **Principle 2: Hire and Acquire Managerial Experience, in Addition to Technical Expertise**

Start-ups are generally alive with young, hungry entrepreneurs who drive their companies to the market through sheer willpower, youthful energy, and new, creative ideas. That youthfulness also helps to explain why most start-ups fail: exuberance can only get you so far. Jim Clark and Marc Andreessen made a conscious choice to scale the company with a different type of person. They targeted maturity as well as technical expertise. They chose managers and workers who already had start-up experience and in many cases had worked in large companies. To meet the demands of extremely rapid product cycles and constant change, they looked for people who had "seen it before."

In the summer of 1997, when we began our research at Netscape, we discovered that the average age of Netscape's more than 2,000 employees was 37! As the head of human resources wryly observed, "Most of us have gray hair."<sup>8</sup> The company was hiring engineers in their late 20s, but most of the marketing, sales, and support hires were in their mid-to-late 30s. By comparison, the average age of Microsoft's 15,000 employees in the mid-1990s was 27. This told us that there was something different about Netscape's approach to people.

Two characteristics stand out among the early Netscape personnel. First is the presence of engineers who helped pioneer key Internet technologies, including browsers, servers, and directory protocols. Second is the prominence of engineers and managers who had previously worked at major companies in computer software, hardware, or communications technology. Netscape hired marketing, sales, and general managers with experience at companies like Apple, IBM, Microsoft, and Silicon Graphics—people who knew how to sell software and computer products. It also hired engineering managers with experience at firms such as Borland, Intel, and Sun—people who knew how to develop software and manage software engineers.

The strategy of hiring experience started shortly after the company's founding, when Clark and Andreessen flew out to Illinois to recruit Andreessen's partners on the original Mosaic team. Having a team of engineers who had written a successful browser once before would jumpstart the

product-development process. As Jim Clark said a week after his Illinois raid, "I know there are a bunch of people looking for gold in the Internet. These guys have already been there and found it."<sup>9</sup>

With the core of the development organization in place, Clark and Andreessen's next priority was hiring a world-class management team. As Andreessen explained, "We knew we could do the technology...but we knew that we needed people who could build the company."<sup>10</sup> For help, they turned to John Doerr, Silicon Valley's pre-eminent venture capitalist and a member of Netscape's board. Doerr quickly demonstrated how a VC can add enormous value to a start-up company: in only a few months, he personally recruited a world-class management team, including Todd Rulon-Miller, the first head of sales; Rick Schell, the first head of engineering; and Mike Homer, the first head of marketing and later the head of Netscape's Web site business. All three had extensive experience in the computer industry and played an important role in getting Netscape off to a good start. Rulon-Miller, who was 43 at the time, had risen through the ranks in sales at IBM, First Data Resources, Tandem Computer, and NeXT in addition to serving as a start-up CEO. The 45-year-old Schell had 15 years of experience at Intel, Sun, Borland, and a start-up under his belt. Homer at 36, was the youngster of this group, but he had already spent almost a decade in marketing and technical jobs at Apple Computer in addition to two stints at start-ups working on pen-based computing.

For the CEO's job, Doerr told us that "I ...wondered if I ought to step in [to the CEO job]. But I felt I could get somebody much better than me to run it, and set out to do that."<sup>11</sup> So Doerr targeted Jim Barksdale, a soft-spoken folksy gentleman, who, in John Doerr's words, represented the "gold standard" of start-up CEOs.<sup>12</sup> Barksdale offered calm as a counter to Silicon Valley's nervous energy; in an industry of manic talkers, he stood out as a listener. At the same time, he had developed a reputation as a fierce competitor. Barksdale began his career in sales at IBM. Subsequently, as chief information officer and then chief operating officer at Federal Express, he was instrumental in guiding FedEx from \$1 billion to \$7.7 billion in sales. Barksdale got his first real taste of David-and-Goliath warfare as FedEx squared off head-to-head against giant UPS. Moreover, at both Federal Express and McCaw Cellular Communications, which he joined as president and chief operating officer in 1992, he had ample opportunity to master the art of meteoric growth. After AT&T bought out McCaw, Barksdale became CEO of AT&T Wireless Services. When Netscape launched its courtship, Microsoft was searching for a president and chief operating officer, and Barksdale was a candidate. But ultimately, John Doerr, Jim Clark, and a 15 percent equity stake in the company proved too much to turn down.

Barksdale did have some weaknesses. Clearly a great manager, Barksdale had limited technical expertise, which diminished his capacity to lead. His management style, which emphasized consensus, also made it difficult to resolve deep conflicts within the company's ranks. However, he deserves great credit

for providing maturity and stability during Netscape's hectic early years. Barksdale was largely responsible for creating the structures that allowed Netscape to enjoy unprecedented growth without spinning out of control. He also worked hard at inspiring the Netscape team. Colleagues lauded Barksdale as a natural leader, who was instrumental in attracting top managers to the company, motivating workers, and redefining Netscape's image. As Rick Schell explained, "Netscape is a real grown-up company because Jim Barksdale is a real grown-up."<sup>13</sup>

### ***Hire People Who Can Hit the Ground Running***

Netscape's strategy of hiring experience was not restricted to the top ranks; it extended throughout the organization. Managers at every level tried to bring on board people who would hit the ground running. Netscape did not hire many green college graduates, fresh from studies in programming or marketing. Instead, it looked for people who had actually done these jobs. Kandis Malefyt, the head of human resources, explained why: "It bucks the common wisdom that to be in a whole new space, you need people who haven't gotten set in their ways. But it's not true. If you hire the right kind of people, you have this great experience."<sup>14</sup>

Hiring "aggressive self-starters" with industry experience allowed Netscape to save on training and orientation. As one manager recalled, citing himself as an example, "I had experience, and I jumped right in. I really wanted to make things happen."<sup>15</sup> However, experience came, quite literally, at a price. In order to attract the people it wanted, Netscape had to be one of the leaders in cash compensation in Silicon Valley. By contrast, archrival Microsoft was able to cut its costs by offering inexperienced hires low base pay combined with relatively high stock options.

### ***Acquire the Talent, Expertise, and Experience You Cannot Hire***

Given its rate of growth, Netscape was not always able to find the talent it needed on the open job market. In particular, this problem often arose when Marc Andreessen identified new product areas where Netscape's vision could extend. In these situations, Netscape aggressively acquired expertise in company-sized chunks. Bob Lisbonne, a senior marketing executive, described the company's acquisition strategy in the following terms: "We have almost always acquired people first, technology a distant second, and installed bases and brand equities and revenue streams a very distant third. We've really taken terrific folks from these small companies and put them right in the middle of the most important stuff going on at Netscape."<sup>16</sup>

Netscape's most important acquisition was its first—the purchase of Collabra in November 1995. Collabra brought deep expertise on messaging and collaboration into Netscape at a critical point. It also contributed a number of senior managers, who took leading roles in the company—to the point that one manager joked, "Collabra's takeover of Netscape is almost complete."<sup>17</sup> While

none of its subsequent acquisitions had quite the same impact, Netscape absorbed half a dozen other companies over the next three years. This strategy allowed Netscape to quickly build capabilities in areas such as 3-D graphics and electronic mail.

### ***Experience Is a Double-Edged Sword***

It would have been impossible for Netscape to scale so quickly without its depth of management experience. However, deep experience in a young company has a darker side as well. For one thing, the people who were great for scaling the organization fast were not always the right people to grow a successful, ongoing venture. A number of Netscape's seasoned hires were extremely successful at providing structure and maturity in the company's early years, but less capable at managing a large, expanding organization. Another problem linked to Netscape's reliance on highly experienced senior staff was the fact that self-confident overachievers will almost inevitably clash. In Silicon Valley, large egos collide all the time. At companies like Intel, shouting matches often echo down the halls. Yet as long as senior managers all have a chance to air their points of view, engage in debate, and come to a clear resolution, big egos can usually coexist. At Netscape, by contrast, the combination of very experienced people, who had not previously worked together, and Jim Barksdale's conflict-avoiding style, made resolving the inevitable clash of egos much more difficult. More often than not, hard problems were postponed rather than attacked head-on.

As one senior manager told us, "If you hire experienced, senior people into a company and they all have big egos—and we all have big egos—you've got to do something to get those egos to work together and to function together. When the company is small enough . . . it's okay because cooperation isn't going to be very helpful anyway . . . [But we could] not get the executive group to come together as a team. [This] was an indicator and a symptom of our problems working together . . . Jim [Barksdale's] style contributed to this problem. Developing the management of the company was important to Jim. But trying to work on his own team, to get them to work together, was not something he was comfortable doing. He couldn't mediate or arbitrate because it just made him very, very uncomfortable."<sup>18</sup>

In the early days of spectacular growth, the consequences of such missed opportunities were lost in the celebrations of success. However, when Netscape's success began to wane, turf battles among senior executives started to emerge, and the cost of the lack of teamwork began to show. Netscape's experienced team was an enormous asset in the company's early days, but the sense that everyone could handle his job on his own may have led the need for coordination to be overlooked.

## **Principle 3: Build the Internal Resources for a Big Company, While Organizing Like a Small One**

As revenues exploded in 1995 and 1996, the company was putting up buildings, hiring new people by the boatload, and generating more ideas than any organization could hope to implement. The company needed systems and structure to keep it on track.

Most start-up companies scale their systems to meet their current needs. In fact, they usually allow their systems to lag behind their growth. One of the biggest traps for an entrepreneur is to build an organizational structure in advance of sales, profits, and stable cash flow. Far too often, wildly optimistic sales projections do not materialize, the company gets overextended, and everything comes to a crashing halt. So most companies build systems as they need them and replace those systems as they grow. However, this approach can be dangerous when you are competing on Internet time. When you grow at "only" 50 percent per year, you may be able to adapt your systems; when you are growing at 50 percent per quarter, you can grow so fast that you are out of touch.

Jim Barksdale was confident that once Netscape's engines started, they were not going to flame out. In addition, at both Federal Express and McCaw, Barksdale had suffered through the pains of very rapid growth and the problems of continuously changing information and operational systems. He learned one important lesson from those experiences: do not do it again. So Barksdale made a risky and potentially very expensive move: he bet that the company was going to be big and went full steam ahead to create large-scale systems for the company that Netscape would one day be. Barksdale proclaimed that Netscape would build the systems for a billion dollar company. One of Barksdale's first moves was to install the type of multimillion-dollar accounting software that was used in the *Fortune 500*. Barksdale explained: "I have been through so many general ledger conversions in my life . . . I'm not going through another conversion as we get to be a \$100 million company. . . . I've been there. I'm going to buy something that's as big as a billion-dollar business needs. If we don't get there, we've got another problem anyway."<sup>19</sup>

These systems ensured that Netscape's senior management had a clear understanding of the operational side of the business and kept the company from spinning out of control. Yet at the same time, Barksdale recognized that moving in this direction involved a delicate balancing act. In his words, "The trick is to know when do you bring on the bureaucrats. There's a stage in a company's life where it's fine to be loosely controlled. There's another stage where you have to get more and more serious. What you don't want to do is get too serious too soon. That stifles a lot of things."<sup>20</sup> One of Barksdale's most important tasks was deciding when it would be too late to introduce more structure into the company and when it was too soon.

### ***Manage Growth Through Decentralization and Small Teams***

Another challenge Barksdale faced was maintaining the intensity, innovation, and flexibility of a small start-up, while simultaneously acting like a billion-dollar company. This time, the solution was a familiar one: continuously decentralize, breaking the structure into smaller and smaller teams, with some of them in a matrix with functional groups. The idea was to operate like a big company, with big-company control systems, but maintain flexibility and creativity as the organization scaled by creating lots and lots of small teams.

Like many companies, Netscape began with a simple functional organization, with separate groups for marketing, development (engineering), quality assurance, legal, finance, and so on. The development group was in turn divided into small teams, usually of around six engineers, that enjoyed enormous autonomy. In 1996, Andreessen explained, "We are trying real hard within the engineering team to push down as much responsibility for engineering as we can. Each of the product teams working on the different products is pretty much self-contained and has the ability to make decisions for its product. They actually set their own schedules, and we have a review process where they tell us their schedules."<sup>21</sup>

As the company grew, product divisions replaced functional units, and the divisions increased in size. Netscape managers tried to counteract this tendency by creating "divlets"—project groups, drawing on both marketing and engineering, that were smaller than divisions. For example, in the server division, each of the teams working on a particular server operated as a divlet. The thinking behind the divlet approach was to encourage better and faster decision making as well as "generalist thinking."<sup>22</sup> Andreessen and other executives believed that combining the functional groups needed to build a product under a single general manager would enable the product groups to be closer to customers, focus more effectively on specific markets and competitors, and act more autonomously.

Netscape's operating style helped contribute to its early success. Flexibility and a short-term focus were critical to Netscape's ability to turn out new products every six months and scale at an unprecedented pace. However, on Internet time, nothing stands still, and that meant that Netscape's needs evolved as the company grew. Over time, divisions naturally ballooned, and it became increasingly difficult—and essential—to coordinate the activities of different groups. Netscape's strategy process also began to show signs of strain as the company's markets matured. Consequently, in late 1997 and early 1998, Barksdale reorganized the company to make it run less like a start-up and more like an established, corporate supplier. One of his changes, for example, was to create a new position in charge of quality and customer satisfaction that reported directly to the CEO. At the same time, he introduced a more systematic, long-term approach to strategy that was based on 36-month plans.

## Principle 4: Build External Relationships to Compensate for Limited Internal Resources

For all its strengths, Netscape would have been unable to keep up with the demands of Internet time without outside help. The company had a powerful vision, experienced leaders, and an organization geared towards fast growth, but ultimate success depended critically upon a wide variety of external resources and relationships. These external assets compensated for Netscape's lack of scale in marketing, financing, and product development. Netscape was essentially able to exploit the Internet and other external resources to create a virtual workforce—people outside the organization who were working for free on the company's behalf.

### *Create a Virtual Marketing Organization*

The biggest problem for any firm, especially a firm initially targeting a consumer market, is how to get recognized. Until recently, Netscape lacked the resources to launch a big advertising campaign. So rather than spend money directly, Netscape created a virtual marketing organization by leveraging free external resources, namely, the press and the Web. Shortly after starting the company, Jim Clark brought in public relations (PR) specialist Rosanne Siino as employee number 19. Initially, Marc Andreessen remembered being confused by this move: "I'm like, 'We've only got 18 people, and now we're going to hire a full-time PR person?' But what he recognized that I did not know was that, by then, our phone had started to ring off the hook because the press had started to realize what was going on with the Internet. So they would give us a call. And that turned out to be one of the smartest investments we ever made."<sup>23</sup>

Even prior to shipping its first products, Netscape created an enormous amount of hype. Since there were no products to push, Siino started by pushing the people, especially Andreessen and Clark. Clark was an easy sell—the sage of Silicon Valley, a successful entrepreneur who would make lightning strike twice. Andreessen was something even better—the next Bill Gates. As early as July 1994, *Fortune's* story on "25 Cool Companies" featured a big picture of Andreessen, Clark, and most of the development team. Soon, without a dime spent on marketing, everyone savvy about the Internet was curious about Navigator and the company. By the time Netscape released its first products, it was widely touted as one of the one or two firms likely to survive the inevitable shakeout in the Web browser market.

Netscape's greatest public relations coup was its spectacularly successful initial public offering (IPO). Although Netscape had lost \$13 million since its founding, investors placed orders for 100 million shares.<sup>24</sup> The day before the offering, the underwriters increased the initial issue from 3.5 million to 5 million shares and doubled the price to \$28. After the first day of trading, Netscape was worth \$2.2 billion, and an Internet star had been born. Netscape's IPO generated more publicity, consumer awareness, and brand equity than most companies

could buy. As Andy Grove, the chairman of Intel observed, "The IPO propelled [Netscape] into mass recognition."<sup>25</sup>

### ***Create a Virtual Development Organization***

Netscape adopted a similar approach to one of the critical phases of product development—testing the product for bugs. The company only had 115 employees by the end of 1994, and three different product lines in the works. As a result, Netscape was stretched to its limits in staffing development teams. To expand its pool of testers, Netscape leveraged the community of the World Wide Web.

Netscape first posted a beta version of its browser on the Internet in October 1994. By this point, company engineers had finished most of the design work, but there still were a lot of quirks to iron out. By downloading the beta, trying it out, and filing their complaints, customers served, sometimes unwittingly, as Netscape's virtual quality assurance team. One month later, one and a half million users had given Netscape's Navigator a trial run. Together they put Navigator through a workout that was far more thorough than anything Netscape's stripped-down staff could have devised.

In 1998, Netscape pushed this process to its logical extreme by announcing, in a stunning development, that it would post the source code of Communicator on the Web. Previously, Netscape had only released semi-finished products. With the source code, it was giving away the instructions that actually made its software work. Developers would be able to modify Netscape's code and incorporate it into their own products. In return, they would be required to submit all modifications to Netscape, which would decide which changes to incorporate into the next official Communicator release. In this way, Netscape hoped to build the largest (virtual) development organization in the world.

Netscape's bitter struggle with Microsoft drove it to this move. Without outside help, it seemed unlikely that Netscape could keep up with Microsoft's army of developers. In addition, Netscape wanted to match and top Microsoft's gambit of giving away its Web browser for free. Yet the Communicator release was more than a desperate defensive move. In offering up its source code for free, Netscape returned to its original vision of creating an open, universal interface that could leverage the power of the Web.

### ***Create a Virtual Financing Organization***

Company finance was the third area in which Netscape's "virtual" strategy reaped large-scale rewards. Netscape's IPO generated \$130 million in cash. Equally important, it created a powerful, growth-accelerating asset in the form of Netscape's high-flying stock. Netscape financed all of its acquisitions with stock, at a cost of more than \$560 million in virtual cash.

Netscape did not always spend its wealth wisely. The problem with a virtual finance department is that management sometimes feels like it is playing

with other people's money, rather than its own. Flush with a huge valuation in its youth, Netscape often paid top dollar in its purchases of start-up companies. Moreover, it often found it difficult to assimilate the full value of acquisitions on Internet time.

### ***Leverage Partners to Build a Platform***

The purpose of the acquisitions was to bring critical skills and technologies in-house. However, even if they had succeeded to the fullest extent, Netscape could not have afforded to develop internally all the software that made the Internet, intranets, and extranets run. Instead, Netscape needed partners—partners to write software (independent software vendors) that would plug into Netscape's products, partners to develop content and Web sites (independent content providers) that would take advantage of Netscape's latest technologies, and partners to help distribute Netscape products and make them ubiquitous.

From the start, Netscape relied on outside developers to create complementary products that extended the functionality of Navigator, Communicator, and the Netscape servers. By 1997, 35,000 to 40,000 developers were writing for the Netscape platform. In addition, independent content providers were just as crucial for Netscape as developers. The key to Andreessen's vision of making the browser into a universal interface for the Web was to have independent content providers optimize their Web sites for Netscape's products. In fact, one of the company's most brilliant moves had been to push Web sites to display buttons declaring, "This site best viewed using Netscape Navigator version X." As more and more users began to use Navigator, the incentives to optimize for the Netscape platform increased, and the next turn of the virtuous circle began.

### ***Partnering Problems at Netscape***

Despite the importance of partners to Netscape's ultimate success, Netscape's performance as a partner was often disappointing. It earned a reputation in Silicon Valley as one of the hardest companies to work with. As Halsey Minor, CEO of one of the largest content providers on the Web, told us in September 1997, "I may not always like working with Microsoft. I may not like the market power that they have . . . [Yet if] there is a lot of antipathy towards Microsoft, in many quarters, there's a war against Netscape."<sup>26</sup>

A number of factors lay behind this failure, including Netscape's philosophy, incentives, and resource constraints. The lack of resources was the simplest reason for Netscape's partnering problems. Netscape was a small company, overwhelmed by success, and there simply were not enough people and time to respond to all the overtures that companies made and to nurture all the partnerships Netscape formed. As one former manager explained, "Relationships and partnering take time, focus, and dedication."<sup>27</sup> All of these qualities became casualties of the pressures of Internet time.

However, resource constraints were not the fundamental cause of Netscape's weaknesses. As Intel Chairman Andy Grove noted about his own frustration in working with Netscape, lack of resources was a poor excuse, "It's like the following situation: Imagine I'm late to a meeting, and I got caught in traffic. And I'm late to a meeting again, and I got caught in traffic. And I'm late to a meeting a third time, and again, I got caught in traffic. You are sure that I'm telling you the truth—I got caught in traffic—but I never adjusted my departure time for the traffic. So who is at fault?"<sup>28</sup> The bigger problem with Netscape as a partner was its philosophy and its failure to devote resources to partnering. Marc Andreessen, who drove Netscape's attitude toward partnerships, sought customers, not partners. In his words, "Having a partnership or a partner relationship without having some economic benefit flowing one way or another is nothing—it doesn't count."<sup>29</sup> This attitude was understandable in a start-up hungry for cash, but it was also dangerous in a world where competitors—such as Microsoft—took a very different approach. Microsoft lavished time, money, and support on companies, such as applications developers, that were aligned with its interests. By contrast, Halsey Minor told us, "Netscape tries to suck every dollar they can out of the Web."<sup>30</sup>

This attitude was due, in part, to simple arrogance, the result of too much success too soon. However, it also reflected pressure to meet Wall Street's high expectations. Barksdale and Andreessen had originally tried to set expectations low, but they soon found themselves trying to meet increasingly ambitious targets. This was not just a question of pride; the loyalty of Netscape's employees also depended on the value of the company's stock. Unfortunately, focusing on quarterly numbers led Netscape to make a number of shortsighted strategic mistakes. As an example, Halsey Minor cited Netscape's relationships with the major search engines, which paid a hefty premium to be featured on its NetSearch page: "What I would have done for the search engines is I wouldn't have charged them a cent. I'd have made damn sure they were locked up for life as distributors of my product over the Web, and that they were supporting my feature sets. . . . But Netscape had allowed these analysts' expectations to be built into their business model, which forced them to run around and keep cutting short-term deals."<sup>31</sup>

## **Negative Lessons from Netscape**

As Netscape's growth trajectory clearly attests, the young company did many things right. A powerful vision, deep management experience, big-company systems, small-company flexibility, and the innovative use of external resources were all an important part of Netscape's success. However, Netscape's scaling-up strategy was not without flaws.

In fact, one can learn a number of lessons from Netscape's experience about what *not* to do when building a company on Internet time. Netscape itself

learned many of these lessons along the way; by absorbing them earlier, the company might have found even greater strength.

First, when scaling a company on Internet time, don't depend on the revolution coming tomorrow. Overestimating the pace of change is the greatest risk for visionary companies, such as Netscape. Netscape started a revolution by popularizing the Internet. For years, the name "Netscape" was virtually synonymous with the impending IT revolution. However, revolutions do not happen overnight in information technology, even when the technology is the Internet. As Netscape has discovered, the tyranny of the installed base is real. Early adopters become excited by new technologies and often assume that the rest of the world will follow their lead. They often forget there are roughly 300 million operating PCs in the world today, and it takes a long time to change the behavior of 300 million users.

The last two revolutions in information technology are good examples. We had a revolution in the mainframe world when IBM introduced the System 360 in the 1960s. That revolution took more than two decades to unfold. Steve Jobs then started the PC revolution in 1977. This revolution took a decade and half to bring about fundamental changes in user behavior. Not until the late 1980s did minicomputer and mainframe customers and vendors begin to feel the heat. The Internet revolution is undoubtedly moving much faster than any previous revolution, but it will probably be five to ten years before the impact diffuses more fully to the mass market.

Many of Netscape's problems in execution came from broad technical and product visions that assumed the revolution was upon us already. If you believe the revolution is coming tomorrow, you can fall into several traps. One trap, as Andreessen admitted, is that you create a strategy "to take all products into all markets."<sup>32</sup> As Andreessen saw the power in the Internet, then intranets and extranets, he stimulated a massive investment in products that *slowed Netscape down*. Rather than have a few truly great products, where it could compete with the best vendors in the world, it divided scarce resources across too many products and markets. By 1997, Netscape had a huge product portfolio that it delivered rapidly—electronically—to the marketplace. They were good products, but not all were great products. And customers noticed.

A second trap of prematurely proclaiming the revolution is to do "rocket science" to accelerate solutions and solve hard technical problems. Andreessen stated many times that Netscape should avoid overly complex projects, but again his vision demanded a revolution in technology that led the engineers down several technical dead ends and wasted resources. Andreessen's vision and enthusiasm provided a beacon for Netscape, guiding the company through the Internet fog. However, there were times when Andreessen's excess enthusiasm led Netscape to a detour or a dead end.

Second, scaling a company on Internet time demands good strategic planning. While Netscape did a great job of building information systems and general

management processes, it assumed that daily tactical adjustments could be a substitute for strategic thinking. Indeed, part of Netscape's success in its first few years was due to its astonishing ability to execute tactically. Todd Rulon-Miller commented, "We were probably one of the best tactically executing companies the world has ever seen."<sup>33</sup> Netscape was second to none in its ability to take a set of short-term ideas, turn them into products, and run like hell. This reflected the fact that Netscape management took the demands of Internet time very seriously. When it came to strategic planning, long-term often meant a fiscal quarter or, at most, a year. Unlike many Silicon Valley companies, and in sharp contrast to their counterparts at arch-rival Microsoft, Netscape managers eschewed multi-year plans. Andreessen would lay out sweeping visions of the future, but the planning horizon extended no longer than 12 months. Strategy at Netscape was not about making long-term commitments. According to Rick Schell, Netscape managers were making strategic decisions every day as part of a continuous set of routine meetings to refine products: "When the market is going to change in six months to a year, you can't spend two months worrying about a strategy. So you have to compress the time. During presentations, there's a little bit of brainstorming, driven by the product teams. In general, our time horizons are six months to a year."<sup>34</sup>

The problem with this approach is that start-ups inevitably have to compete with more mature companies with more systematic approaches to strategy. In Netscape's case, it had to compete with Microsoft, one of the most powerful competitors in the world. As the Department of Justice has told the world, Microsoft had a very systematic approach towards strategy in general and strategy towards competitors such as Netscape, in particular. When we interviewed Microsoft's President, Steve Ballmer, he was adamant that strategy was strategy, and what made Internet time important at Microsoft was the need to take the sharp turns if necessary, but continue to run the business with an overall strategy in mind. He told us, "The notion that everything changes everyday, the notion that customers really want a new release on everything every three months—that's hog wash. It was hog wash from the beginning, but we play along; we'll play the same game. If Netscape wants to play that you don't have to have quality products, just beta releases, and there's a community of people that want to play—we better play."<sup>35</sup>

The advantage of Microsoft's approach to strategic planning was the fact that the company had a structure in place to look systematically at its environment and then develop a set of plans both to react to that environment and to try to shape it. It forced executives to look three years out, and required *all senior managers* to lay out their *business, competitive, and technical assumptions* about how the world is changing, and then state the implications of those beliefs. Netscape, by comparison, relied heavily on Andreessen and a small number of very smart people who worked with him to look out into the future with a largely technical view of the world. Most of Netscape's managers then put their noses to the grindstone and tried to execute.

After leaving Netscape, Rick Schell reflected on Netscape's strategic planning. He noted, "The Netscape product cycles were typically six months long. And we were getting customer requirements that were changing all the time. The market was moving all over the place. So we were adapting. It did not seem to make sense to have a strategy that you write down to make a decision today about something that's going to occur a year from now, especially in a market you don't understand. At the outset, it wasn't appropriate. Two years into the company, it probably would have been a good thing to have a formal planning process."<sup>36</sup>

Finally, no matter how fast a company is scaling its operations, it usually needs to build partnerships that are a two-way street. While Netscape managers did a brilliant job of exploiting "virtual" partners such as the press, their relationships with "real" partners, such as developers and content providers, were often weak. All too often, they focused on what partners could do for Netscape in the short term, instead of building relationships that would create greater value over time.

## Conclusion

While Netscape made a number of mistakes along the way, it managed to weather many bumps in the Internet road. The management team was successful in ramping the company faster than any software company in history, despite facing a grueling test of wills with the world's most powerful software company, Microsoft. In addition, they figured out how to control exponential growth, build an experienced management team, and leverage a huge army of virtual resources created by the Internet. In the process, Jim Barksdale, Marc Andreessen, and Netscape's other senior managers and engineers built an organization that gave Microsoft a run for its money. Not many companies can make that claim.

## Notes

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